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MEDICAL IDEALS FOR THE EVERY-DAY DOCTOR *

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The ideals of to-day are the history of to-morrow in the embryo.

Who better than the man of medicine may have high ideals? Who better than he may anticipate the history he is helping to make? Who may look back to the history of the past with such pride in his profession? If we may judge the future by the past, if the deeds that men have done are a guide to what they may do, if the record of other days is an inspiration for days to come, if a noble heritage obliges us to nobility, then how great is our debt to the past! How deep is our duty to the present! How lofty is our inspiration for the future!

Every great movement for human welfare in promoting health and vigor has been instigated, advocated, and carried to success chiefly by the medical profession to its own great loss, and often in the face of bitter opposition from the people who were to be benefited. The whole pathway of medical research and progress is marked by the bloody footprints of the martyrs of science—a noble martyrdom as lofty as any the church can boast. Vesalius was persecuted because he dared to study the dead body that he might know and heal the living. Jenner was ostracized and pictured as a devil incarnate. Harvey was described as an infidel. McDowell was threatened with criminal prosecution. Jeffries was mobbed. Flexner is branded a monster. Carroll, Lazear, and others, died to prove the cause and secure the prevention of yellow fever, and the government took twelve years to grant a widow's pension for the service.

No other calling or profession has such a record of constant and unselfish devotion to humanity. When the great Judgment Day shall come, Medicine may stand erect and humbly unashamed, while even the Law and the Church must hang their heads, for Medicine has always been the friend of the people. The Law, designed to safe-guard the liberties of man, has often riveted the fetters of his slavery; and the Church, ordained to give men that highest truth which shall make them free, has at time so far forsaken her high behest as to declare the cruel yoke of the oppressor holy and heaven-sent. No such charge can be sustained against the healing art.

Does some one say "How about the quack doctor?" How about that insatiate vampire that lives by the blood of its victims—that unmitigated villain who robs the foolish and the suffering of money and of life itself? Are we charged with his deeds? Better charge Christianity with the hypocrite. For have not we cast out the quack? Have we not ostracized him? He is none of ours. And when we have done with him, has not the protecting arm of the Law been thrown about him and is he not received into the bosom of the Church? Does he not sit in the congregation of the saints, and do not even your religious papers befoul themselves with his lying and disgusting advertisements? Have not the courts again and again given him the advantage of every known technicality and quibble that he might not have impaired his most sacred liberty of fleecing the people? No, he is none of ours. Some of us have been regarded as unorthodox in religion because we found difficulty in believing in a burning hell; but we are coming around all right. We had to put fire and brimstone back into our creed, for we had no other suitable way of finally disposing of the quack doctor.

What is the spirit that animates the medical mind and must always animate it from time immemorial unto the end of history? Not the greed of gold. The average annual income of Kentucky physicians (and they are as good as others) is less than $1,000. There is hardly a doctor anywhere in the profession who could not instantly double his income, if he but adopted a code of morals that is daily in practice and accepted in the business world. Not the fanfare of fame. Even the greatest among us will be overtaken by his epitaph long before his name is heralded among the people. Not the pride of power, for such power as the doctor attains is exercised for the public good, hampered by political and personal indifference or hostility. Ask Dr. Wiley about power. And yet Medicine goes on healing and preventing diseases, in the main unmindful of money, forgetful of fame, and puny in power.

Do you remember Him who looked down from the slopes of Olivet on the holy city, and wept, and how He stretched forth his hands and said: "Oh! Jerusalem, Jerusalem, thou that killest the prophets and stonest them that are sent unto thee, how often would I have gathered thy children together even as a hen gathereth her chickens under her wings and ye would not!" Those were the words of Him who was known as the "Great Physician." If the humane and benevolent spirit that pervades the medical profession could be gathered into one great personality, then would that great beneficent soul of Medicine look down on the suffering world and weep, saying: "Oh, erring sick, and sorrowing humanity! How have I longed to bestow on you the boon of health and vigor and life abounding and ye would not!"

Your call to the service of the healing art is not the call of wealth, or fame, or power, or popular favor, or personal aggrandizement, or social distinction, or ease, or comfort, or long life. It is a call to war; a life-long enlistment on the side of humanity in its grim struggle with disease and death.

* Oration in Medicine, Kentucky State Med. Assn., Paducah, October, 1911.

Man enters the world wailing and leaves it with a moan, and punctuates the journey from the cradle to the grave with many a cry of distress. He who deftly launches the traveler on the sea of life, who safely pilots the voyager through its storms and stress, making him fit for his seamanship until his bark is gently beached on the shores of eternity, has a great office to fill. So to conduct the advent of a new life as to make it safe in itself and free from damage to its maternal source is an important duty. To act as the counselor and guide of that new life in all matters physical, and to have a large share in shaping its mental and moral destiny, is a great task. To marshal the vital forces of that life and take command in its fierce battles with disease and death is a large responsibility. So to lead that life as to free it from self-destroying follies and lift it above foolish fears and superstitions, clearing the way for the development of its best powers and promoting its efficiency, is a lofty labor.

This is the work of the every-day doctor and it is a man's work, worthy of great men for its doing.

Man is never born great except potentially; nor can true greatness be thrust on him. It can be attained only by achievement. The man who habitually and heartily measures himself against the task before him is sure to

> "Grow each day and hour
> Into his life's potential power."

And the limits of that power, even to the every-day doctor, who shall set?

Our task calls for the active, attentive use of our best powers. We are not only to perceive what is thrust on our senses but to seek; not only to know what is forced on us by sight or hearing, or contact, but to look, listen and feel. The amount of knowledge acquired by the senses, its clearness and its permanence will depend largely on whether the senses are actively seeking knowledge or only passively receiving it. The same is true of the other faculties. If we allow our minds to drift and our conclusions to form themselves, they will be shallow, uncertain and unsafe. The matters we are called on to judge are far too important for this. They demand that our judgments be based on broad and thorough observation, careful comparison, and sound reasoning, the result of trained faculties actively at work. The best-trained mind is that one which, in the largest percentage of instances, automatically does its best, which does not need to be whipped up in each case to do good work, but has made thoroughness a habit. There are great differences in the original endowment and in the training of medical men, but these differences are not greater than those which result from experience. A man will either use and thereby improve his talents, or neglect and lose them.

The every-day practice of medicine is eminently fitted to make the most of any man if he but gives himself devotedly to the work for its own sake. Herein lies a large hope for the every-day doctor and the mediocre man. Look at the illustrious names that adorn the pages of medical history. It is nowhere recorded that they were born great. Their glory was not gratuitous. Their schooling was not superior. Their opportunities were not larger. But they had great problems to solve even as others. They had mighty difficulties to overcome even as all physicians. They had sore needs to supply, even as you and I. And they measured their littleness mightily against the mighty force of ignorance, disease and death. They realized the worth of the physician's work and labored worthily. As workmen needing not to be ashamed they lived the every-day of life on a high plane. With extraordinary energy they attacked ordinary duties. With uncommon concern they cared for their common cases. With patient persistence they solved and proved their problems. With a devotion to duty amounting to a holy zeal, they loved even their unlovely tasks and performed them with a thoroughness that lifted their common lives above the common things of life and grew in them the character that challenges the admiration of the world. Out of the every-day of life there came to the medical profession a John Hunter, an Ephraim McDowell, a Robert Koch, an Ochterlony, an Osler, a Murphy, a Mayo, and a multitude of others; and by what means? Can you imagine Laennec making a chest examination through a silk waist? Or Trousseau content with feeling the pulse and looking at the tongue? Or Sims satisfied with the surgery of his day? Or Cabot taking the patient's word for a diagnosis? Or Gorgas accepting his office as a sinecure? These are they that "waxed valiant in fight, out of weakness were made strong."

The every-day doctor may feel that they were men of very large natural ability and that we are not to be measured by them. They *were* giants, and we may be pygmies, but, mounting to their shoulders, we can see farther than they. It is not necessary that we be great; it is necessary that we be faithful. The great men of medicine did not start out to become great or famous; they simply did their work well and grew; for they had at hand the very best means of growth, even as you and I. They sat at the feet of the masters in studying their works, even as you and I are privileged to do. They touched hands with the best men of their day in their journals and associations, and much more may we. The race-long cry of suffering humanity assaulted their ears, as it comes to ours, and they set about its relief without stopping to appraise its money value or its offering of fame.

If any man in medicine will do that, the time will come when the profession, if not the whole people, will discover developed in him whatever greatness was potential in his endowment. Only let him not be easily content with present attainment. Let him feel that he has matriculated for a life-long course in the great university of practical experience, where every patient is a study, where every symptom is to be searched out and traced to its origin and weighed as to its significance, where every examination is an exercise in skill, every operation a training in technic and every prescription a drill in sound therapeutic reasoning.

The school of experience is proverbially expensive. The patients of the thoughtless doctor will find it doubly so; for he goes on repeating the same blunders, overlooking the same observations, reaching by the same reckless reasoning, the same careless conclusions, doubtful diagnoses, and "shot-gun" and unknown ready-made prescriptions. Such a man, profiting little by experience, drifts or blunders through his own and his patient's lives from his observation of obstetric positions as "head-first" or "feet-first" to the death report of "old age."

The great minds of medicine were not so made, nor did they come by chance. The practice of medicine has never been greatly raised by accident or freaks of fate, or strokes of genius. The great men of medicine were just hard, earnest and capable workers. They grew great by growing into the greatness of their task.

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There is need that medicine grow into the greatness of its task. Great things have been accomplished, but greater remain to be done. There was a time when epidemic disease swept over the face of the earth like a devastating frost and human life withered before it like the flies. Well did the psalmist speak of "the pestilence that walketh in darkness" and "the destruction that wasteth at noon-day." For the tragedy of bubonic plague, small-pox, syphilis, cholera, malaria, yellow fever, diphtheria and cerebrospinal meningitis are written large in the closed chapters of history.

Medicine has done so much that we occasionally hear the opinion expressed that the doctor will soon lose his occupation entirely by reason of medical advance. That were indeed a consummation devoutly to be desired, but offering no early hope of attainment; for every great discovery in medicine has opened to the doctor a dozen doors of opportunity for every one it has closed.

Phagocytosis, so far from being a finality on resistance, has opened to view a long vista of agglutinins, opsonins, lysins, bacterins, vaccines, side-chain theories, complements, etc., and the end is not yet.

Ehrlich presents a new remedy which may cut short the prolonged treatment of syphilis, but in so doing he opens to research the great field of chemotaxis.

Lord Lister developed antiseptic surgery and so far from finishing surgery, it has filled the world with surgeons.

Medicine still has a great field for advancement. Tuberculosis has not surrendered. Measles and whooping-cough are still serious and universal scourges. Cancer remains the scandal of medicine. Gonorrhea and wild oats continue to be sown together and to yield their bountiful crops of disaster. The field of mental and nervous diseases is still largely a jungle of unknown horrors. The internal secretions are unsolved problems. Auto-intoxication is only a tattered cloak for our ignorance. Pneumonia baffles us very much as it did the doctors of ten centuries ago. The acute and chronic joint inflammations and degenerations are in a blur of uncertainty. Kidney disorders and arteriosclerosis await elucidation. There is much territory for medicine to explore and still more to conquer.

Great as is the call for the advancement of our science, the demand for improvement in our practice is still greater; for our science is eagerly and earnestly using every means at its command to solve the mysteries of the unknown, while our practice is falling far short in applying the truths already revealed.

When the science of medicine has presented a new means of accurate diagnosis, or developed a better treatment, or evolved a surer prognosis, or offered a safer prophylaxis, it would seem reasonable that these discoveries should immediately appear in practice and rapidly become universal in use. It would appear natural that the science and the art of medicine should walk hand in hand; that theory and practice should keep step in the onward march of medical progress.

The world has a right to expect as much. If my child is ill or injured, I desire that the art of medicine, as practiced at his bedside, shall apply the best that world-wide medical science has to offer, and I hear the voice of one saying, "Whatsoever ye would that men should do to you, do ye even so to them."

In only one department of practice is our art following closely in the footsteps of science—the department of major surgery. The other specialties are lagging noticeably, and general practice (the work of the every-day doctor) is so far in the rear as to create some doubt whether he belongs to the procession or only happens to be traveling that way.

The surgeon leads because his work is spectacular and is done in the lime-light of publicity; because it is constantly reviewed under the fairly competent criticism of the general practitioner; because it commands a fee that supplies the means of good work; and because the surgeon occupies a limited field which he can cultivate intensively and in which he can keep up to date and become highly proficient. The same reasons hold good, but to a lesser degree, in the case of the other specialists. The work of the every-day doctor is of the every-day of life, attracting little notice and reviewed by no authority nearer than the recording angel, or more capably critical than his own conscience. If well done, it is shamefully underpaid, and his field of labor is so extensive that intensive cultivation, proficiency, exactness, and keeping up to date, are impossible. Not much is exacted at the hands of the every-day doctor. His clientele does not require much and is not competent to judge whether he gives little or much. The demands of the law are small, only asking "ordinary care and diligence" and conscience is almost as easily satisfied.

But there *is* a call to higher things and eager men will harken, earnest men will hear, and honest men will heed. It is heard in the voice of scientific medicine, whose every established truth is a prophecy of good to humanity that pleads for fulfilment. It speaks in the tones of the healing art as she asks that the most beneficent task ever entrusted to human hands be well done. It comes to us in the world-old and ever-present cry of human need. It makes its mute appeal from the silent graves of the untimely dead that ask of us their rightful years cut off. It challenges us in the words of Him who said "What do ye more than others?" It upbraids us with the dupes of quackery, 99 per cent. of whom have slipped through our hands unhealed and unsatisfied. It stirs in the life of every man whose heart throbs with the joy of battle and whose mind is uplifted by the power of the ideal. What shall be the response of the profession and especially of the every-day doctor?

If we are to share in the conquests that await the advance of scientific medicine, it is necessary that we be equipped with broader knowledge, surer skill and riper wisdom. The physician is in need of a broad general knowledge of the whole of medicine. Only so can he escape the egregious blunders that grow out of narrowness of training or experience. Disease is not so exact in localizing itself or its manifestations as to warrant exclusive specialism. Every one of us should be able to see and understand far more than we can do. We may not be able to make a blood-count, or handle the *x*-ray, or use the cystoscope, or analyze the stomach contents, or remove an appendix, or definitely determine a heart lesion, but we should know the principles on which each of these procedures is based, the field for usefulness of each, and the man who *can* do the work; and that man ought to be in easy reach.

The man of widest knowledge in medicine to-day is the every-day doctor in general practice, and yet the times demand even of him that he broaden his field of vision. Even more insistently do the times demand that he narrow his field of work. Medicine has grown far too great for any one man to cover the whole field and do it well. The every-day doctor has undertaken too much and the consequence is that he cannot give, in many of his cases, the efficient service that present medical science demands. Nor can his inefficiency command the fees that the specialist receives and deserves.

The every-day doctor must do some specializing. He ought to serve his patients in every case in which he is prepared to render as good service as is available to them. If, in addition to this, he will devote himself to the special study of the chest, he will in time become the neighborhood expert in that field. If his medical confrères will do likewise for the alimentary canal, the genito-urinary tract, nervous disorders, pediatrics, general and emergency surgery, etc., each will finally become the local authority in his particular field of general practice. He will then be able to render a better service in some one line and to command a better fee because he will be worth it. His colleagues, recognizing his special ability, will call him oftener in consultation, thereby giving their patients a better service, the doctor a better income, and the profession the uplift of a better mutual understanding. At present we are confronted, in every well-populated community, with the paradox of too many doctors and too little efficiency of medical service. Let the every-day doctor, without giving up his general practice, specialize in some department of his work and this disgraceful paradox will tend to correction.

Consultations ought to be more frequent, and they would be if some near-by doctor were fitted to act as consultant. If the every-day doctor will so fit himself, he will improve his standing in the profession, increase the respect in which he is held by the public and, what is equally as important, enhance his own self-respect.

It is not necessary or desirable that the every-day doctor undertake to displace the present-day specialist; nor ought he to look with envious eyes on the opportunities and privileges the specialist enjoys, for the narrow garden-spots of specialism are well occupied and cultivated almost to the limit of productiveness, while the broad fields of general practice, now neglected, are fallow and inviting to intensive cultivation.

The greatest opportunities in the healing art to-day are waiting at the hand of the general practitioner; 95 per cent. of practice applies first to him and it is his to take what he will, his to have and to hold, if he will but prove himself worthy to have and competent to hold. Only let him not try to grasp everything, lest he show himself unable and unworthy to hold anything. Let him select so much and such kind of practice as he can serve with adequate art, commensurate with the best medical science has to offer. In cases in which his knowledge or skill are not up to that standard, let him seek aid in consultation, or send the patient to the man who can render the necessary service.

When the every-day doctor has learned to excel himself and others in something, he will begin to experience the pleasure of leadership, the distinction of success, the joy inherent in good work well done and the profits that in time accrue to worth.

When by doing less he has learned to accomplish more, when his skill in something has made him unwilling to do anything unskilfully, when his art is treading on the heels of science, then will medical science hurry forward to new conquests and the spirit of the healing art will go forth among the people who too long have "suffered many things of many physicians" in vain, and many will touch the hem of her garment in well-founded faith and be made whole and Medicine will find her rightful place in the esteem of men. Is this too good to be true? The answer rests with you and me, for in the Providence of God and the progress of medicine, there is nothing too good to be true.

SECTION OF POSTERIOR SPINAL NERVE-ROOTS FOR RELIEF OF GASTRIC CRISES AND ATHETOID AND CHOREIFORM MOVEMENTS

REPORT OF TWO CASES

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It is unnecessary to review the history and results of this operation, recent medical literature having treated this subject quite fully. We believe, however, that the diversified and, at times, unsatisfactory results of this operation are to be attributed to the difficulty of localizing definite roots after the spinal canal and dura are opened, the difficulty of localizing the seat of the disease from the neurologic examination, and the fact that cases suitable for this operation have not always been selected.

CASE 1.—*History.*—H. T., a white woman, married, housewife, aged 50, entered the University Hospital, May 23, 1911. The patient complained of pain in the back, around the waist and in both legs, sharp, shooting in character, of almost constant duration, and of severe vomiting spells which occurred in paroxysms and followed each other at short intervals, causing great prostration and severe pain in the abdomen.

The duration of these symptoms was about five years, the vomiting spells occurring at first at intervals of several months and lasting from a few hours to one or two days, but on admission were almost constant, there being only a few hours in the twenty-four when the patient was not vomiting. The family history included nothing of importance. For the previous ten years the patient had suffered with what she called "rheumatic pains" referred to the back, hips and legs; had always been more or less nervous; had had several miscarriages; at times slight attacks of indigestion and headache; otherwise the history was negative.

Present Trouble.—About six years ago the pains in her back and down her legs would, at intervals of four or six weeks, become so severe as to necessitate her going to bed and remaining there several days. One or two years later these attacks became very severe. There was excruciating pain in the upper abdomen and between the shoulders, and intractable vomiting which occurred independently of the character of her diet, the vomitus being at first the contents of her stomach, then mucus, and finally a greenish blood-stained fluid. During these attacks she frequently had severe pains around the heart and there was great prostration but never unconsciousness. About two years prior to admission the uterus, tubes and ovaries were removed in one of the local hospitals. The patient's attacks gradually became more frequent, until the time of her entering the University Hospital when she was almost constantly in pain and very rarely free of nausea. For the previous year she had had some difficulty in walking, which was almost impossible in the dark; she had marked constipation, and, at times, voided urine involuntarily.

On admission to the hospital the patient was apparently suffering from severe pain, was constantly vomiting, retching, moaning and calling for relief. When she was placed in bed she crouched forward on her knees with her head and shoulders on the pillow, at times rocking backward and forward. She remained in this position constantly unless stupefied with morphin, but immediately on regaining consciousness resumed this position. In spite of all our efforts to relieve the patient the vomiting continued; it was impossible for her to take food; the prostration was extreme, emaciation progressive and a fatal outcome seemed imminent.

Physical Examination.—Because of the patient's condition this was not so thorough as was desirable. The following notes were made: Patient very emaciated; temporal arteries

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very prominent, tortuous and throbbing; heart slightly enlarged; lungs rather emphysematous; abdominal examination yielded negative results; urine negative; blood-pressure 140 mm. Hg; leukocyte count 12,800; hemoglobin 90 per cent.; Wassermann positive.

Examination of Nervous System: Both pupils contracted, not active to light but reacting to accommodation (Argyll-Robertson pupil); weakness of all muscles; rather flabby muscular tone; knee-reflexes markedly increased; superficial reflexes present; disturbance of control of bladder, patient frequently wetting the bed; coordination of upper and lower extremities poor; Romberg sign very suggestive.

Sensory Examination: At time of the examination the patient was suffering so much pain that it was impossible to make a complete examination, but there were numerous areas on both lower extremities and trunk where tactile sensation was incorrectly localized and where pain sensation was markedly delayed; muscular sense was absolutely absent in the lower extremities and very much impaired in the fingers.

Diagnosis.—The diagnosis of tabes dorsalis was made from the presence of Argyll-Robertson pupil, character of sensory disturbances, bladder disturbance and character of vomiting spells, which were taken to be gastric crises, in spite of the fact that the patient had increased knee-reflexes.

As the patient had been treated in various hospitals and was becoming progressively worse, the gastric attacks becoming not only more frequent but also much more severe, it was thought advisable to recommend Foerster's operation of section of the posterior spinal roots. This was accepted by the patient and her family, and the operation was performed June 3, 1911.

Operation.—Division of the posterior roots of the seventh, eighth, ninth and tenth thoracic nerves. Operator, Professor Randolph Winslow; assistant, Dr. Coleman; anesthetist, Dr. DeVilbis; anesthetic, ether by the drop method. The field of operation was prepared by the application of solution of iodin containing 50 per cent. of 95 per cent. alcohol and 50 per cent. tincture of iodin. A vertical median incision was then made over the spinous processes, starting at a point just above the fifth dorsal and extending down to the eleventh. The muscles were separated from the bony structures by blunt dissection, bleeding controlled and the spinous processes and laminæ of the sixth, seventh and eighth dorsal vertebræ then removed. The dura was opened and the posterior roots of the seventh, eighth, ninth and tenth thoracic nerves were cut. The dura was brought together by interrupted catgut sutures, the muscles, fasciæ, etc., sutured with catgut, and the skin closed by subcutaneous silver wire suture. Sterile dressings were applied and the patient returned to bed in good condition.

Postoperative History.—On recovering from the anesthetic the patient was somewhat nauseated but did not vomit. She suffered severe pain in the abdomen, back and legs. This, if anything, was more severe than before the operation. She lost entire control of the bowels and bladder and the use of her lower extremities. In ten days the skin suture was removed, the wound having healed by primary union. The patient soon regained control of the bowels and was again able to move the legs freely, although complaining of great pain when she did this. The control of the bladder was again partially recovered. The patient at the time of this report still had violent attacks of typical tabetic pain in her legs, lower abdomen and back. Her appetite was good, the patient was gaining weight and since the operation, almost five months, had never had the slightest inclination to vomit. She was, except at intervals when she had her pain attacks, very comfortable and happy. Her knee-reflexes were still increased and her sensory disturbances, with the exception of a band of absolute anesthesia about 3 inches in width extending around the lower abdomen and onto the back, were about the same as before operation.

CASE 2.—*History.*—The patient, O. L., a white youth aged 17, entered the University Hospital Jan. 12, 1911, complaining of uncontrollable movements of arms, legs and body of about nine years' duration, which were getting worse. The patient's mother was insane; had been in state hospital for treatment of insane for about eight years, but her mental trouble dated back many years; father was a painter by occupation. Otherwise the family history was negative. The patient's birth was difficult, requiring instruments. He had measles when about 10 years old. Otherwise the history was absolutely negative. His habits were good.

Present Illness.—At the age of about 8 years the patient was hit on the left side of the head with a baseball, but this did not seem to have been very severe. About four months after this a contraction and drawing up of the right wrist was noticed, this paroxysmal spastic contraction gradually becoming more extensive and involving other groups of muscles in right forearm and arm, then right leg and thigh. In about two years the left arm became affected, gradually in the course of another year involving the left leg. These abnormal movements gradually became more extensive, more severe, being much less readily relaxed voluntarily until at the time of examination the entire body, with the exception of the muscles supplied by the cranial nerves, was affected. These movements ceased during sleep when the patient was perfectly relaxed and were always rendered much more severe by excitement.

Physical Examination.—Chest and abdomen apparently negative; temperature, pulse and respiratory rate about normal; urine negative; blood examination negative; blood-pressure 110; Wassermann examination negative.

Nervous Examination: Cranial nerves normal; intelligence normal; speech normal; no mental manifestations; sensory functions for all forms of sensation normal.

Motor Functions: Motor power of upper extremities good; trunk good; lower extremities show marked weakness in peronei group of left leg, also some weakness in this same group on right side. The deep reflexes were extremely difficult to elicit owing to the muscular contractions. The superficial

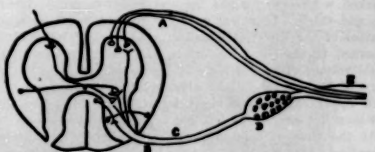

Diagram of cross-section of spinal cord showing nerve-roots and ganglion and point at which the posterior root was cut. A, anterior root; B, posterior root; C, point at which posterior root was cut; D, ganglion of posterior root; E, mixed nerve.

reflexes could not be obtained. The rectal and vesical reflexes were normal. It was impossible to test the gait or coordination on account of the constant muscular contractions. These abnormal movements consisted of involuntary, uncontrollable athetoid contractions of muscles or irregularly situated groups of muscles, bringing about slow chorea-like movements of the body and extremities. This condition was almost constantly present during the waking hours, passing from one part of the body to another, while at times the entire body was involved. These contractions gradually relaxed, when the limbs could be passively manipulated without the presence of any spasticity. This but rarely occurred, as usually the presence of the examiner intensified the movements. This at times became so extensive that it was quite exhausting, the patient being bathed in a profuse perspiration. At times the contractions of the chest and abdominal muscles were so prolonged as to cause cyanosis.

This patient having already been under observation for a considerable period and his condition having become progressively worse, it was determined to resect some of the posterior roots in the hope of alleviating his condition.

Diagnosis.—Despite a very careful examination, this case failed to reveal symptoms that could be attributed to any gross localizable pathologic condition. Our explanation of the manifestations was that we were dealing with a condition of hereditary nervous instability which did not manifest itself until about the eighth year, and at that time in a local deficiency of the inhibitory functions of the cerebral cortex, this deficiency gradually becoming more extensive until it

involved the entire cortex. Constant peripheral sensory stimuli entering the spinal cord through the posterior roots, unless physiologically inhibited by higher centers, stimulate the cells in the anterior horns of the cord and bring about contractions of muscles or groups of muscles. In our patient we believed we were dealing with a condition in which there was a deficiency of physiologic cerebral inhibition. Our efforts to increase this inhibitory control having been fruitless, we thought the cutting off of the peripheral stimuli by section of the posterior roots might relieve the patient. We selected the posterior spinal root as being the most favorably situated for cutting off the peripheral stimuli, as in this place we could cut off these stimuli without at the same time producing paralysis.

The experimental nature of the procedure was explained to the patient and his father; they consented, and we selected the left leg as the portion of the body on which to try the procedure, knowing we could not make conditions worse.

Operation.—Feb. 6, 1911, the patient was prepared for operation. He was anesthetized with ether by Dr. Hooper. Professor Winslow, assisted by Dr. Coleman, performed a laminectomy in the lower dorsal and upper lumbar regions in the usual manner. The dura was opened. It was very difficult to locate definite posterior roots but several coming off from the left side of the lumbar enlargement were cut. The dura was closed. Muscles, fascia and skin were properly sutured, dressings applied, and the patient returned to bed in good condition.

Postoperative History.—Recovery from the surgical condition was uninterrupted. At first there was loss of bowel and bladder control and of sensation on the left side, involving the skin over the buttock and outer side of leg. There was also marked weakness of right leg and complete paralysis of left leg and thigh. In a few days the patient regained complete control of the bowel and bladder. The original motor power returned to the right leg but it was several weeks before he could voluntarily move the left leg and thigh. Within a few days of the operation the abnormal movements returned in both upper extremities, right leg, thorax, and right side of abdomen but not in the left leg or left lower abdomen.

At the time of this report, nearly nine months after the operation, the movements had become, if anything, more marked in the upper extremities, thorax, right lower abdomen and limb, but in the left limb and left lower abdomen they were still absent. There still remained some weakness in the left limb, with foot-drop and persistent and complete loss of sensation over the outer and dorsal surface of the left foot.

In conclusion we wish to call attention to the fact that in neither case can conclusive deductions be drawn from the present sensory disturbances. In Case 1, the sensory examination before operation was necessarily very incomplete, and from the nature of the disease itself we are led to expect many sensory disturbances. It is, therefore, impossible to draw correct conclusions from the present sensory disturbances without an exact knowledge of the conditions before operation. In Case 2, owing to the uncertainty as to just which sensory lumbar roots on the left side were cut, it is impossible to attribute to any definite sensory roots the present sensory disturbances.

We can only state that in both cases there are definite areas of anesthesia—in Case 1, an irregular band around the lower abdomen, extending posteriorly over the lower lumbar region; in Case 2, over the outer and dorsal surface of the left foot, which apparently did not exist before operation. It may also be stated that both patients were entirely and promptly relieved of the conditions for which the operations were performed—in Case 1, vomiting spells; in Case 2, abnormal movements in the left lower extremity.

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TONSILLECTOMY WITH A SINGLE INSTRUMENT, THE TONSILLECTOME

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The constant increase of publications, and positive evidences gleaned from them, as to the rôle the pathologic tonsils play in the cause of many general and local diseases has led to a corresponding activity in the perfection of the technic for the removal of these glands. Some of the methods of operating which have been and many of which still are in vogue, are as follows:

1. Tonsillotomy by means of the MacKenzie, Mathieu and other tonsillotomes.

2. Drawing forward the tonsil from the fossa and cutting off with knife or scissors.

3. Drawing forward the tonsil from the fossa and snaring off with hot or cold wire.

4. Dissection of part or all of the tonsil by cautery.

5. Liberation of the pillars by knives, separators, scissors, drawing forward the tonsil and snaring it off.

6. Liberation of the pillars by a sharp knife and dissection of the tonsil by scissors, dissectors and finger, up to the firm attachment at the base, drawing it within the loop and snaring it off.

7. Liberation of the pillars and dissecting completely with knives or scissors, removing the tonsil without the aid of the snare.

8. Complete enucleation by means of the finger, without preliminary liberation of the pillars.

9. Lifting out the tonsil by means of Sluder's or Ballenger's guillotines, and employing the molar eminence of the lower jaw as a fulcrum, in addition to employing the finger to feed the tonsil through the opening of the instrument (fenestrum), causing the tonsil to be everted from its capsule. The latter is thus turned on itself and liberated from its attachment to the pillars by the sharp blade of the instrument. A snare has been suggested in addition to the Sluder instrument.

10. Lifting out the tonsil and employment of either Sluder's or Ballenger's instruments, the latter preferred, entirely ignoring the molar eminence as a landmark, but feeding the tonsil through the fenestrum of the instrument, while held firmly behind the tonsil, causing it to be everted, while the sharp blade severs the capsule from all its attachments (my modification).[1]

11. Employing a small Mathieu's tonsillotome, and the same technic adhered to as mentioned in No. 10, severing the attachments from behind forward (my modification).

12. Employing the same technic as mentioned in Paragraphs 10 and 11, but making use of the instrument illustrated (Fig. 1), the tonsillectome. This is a Pierce-Miller snare, modified by having a small but heavy fenestrum at the end, very much like the ordinary Vedder tip, through which the tonsil is pushed and everted. The wire loop is hidden in the slit of the fenestrum and is continued as a twisted stylet through the cannula, fixed and operated in the usual manner of this snare.

I have developed the technic mentioned in Paragraphs 10, 11 and 12 within the past nine months with a fairly large material, and have come to the conclusion that the method mentioned in Paragraph 12 is the best, because it removes the entire tonsil, with capsule intact, without any button-holing, with no attachment of the muscles or pillars, with practically no bleeding either at the time of operation or after. There is less reaction following this method than after any other, except it be in tonsillotomy, and that operation is not to be considered for

1. In the British Med. Jour., Nov. 25, 1911, page 1402, Whillis and Pybus describe a method of tonsillectomy by means of a guillotine (MacKenzie) very much like the Sluder operation, not mentioning the molar eminence, however.

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those pathologic conditions of the tonsil for which the operation is performed. Until Dr. Sluder presented his method of tonsillectomy I was satisfied with the technic of dissecting with knife, scissors, finger and snare, but the bleeding, primary reaction and secondary scars that at times resulted, made me wish for a better method. Great credit is due to Dr. Sluder for giving us his method.

A tonsillectomy by means of one instrument has been performed by many an operator. I refer to the accidental removal of the entire tonsil with capsule intact by means of various tonsillotomes, but the developing of a technic with the intention and result of doing a tonsillectomy by means of one instrument, or without previously dissecting the pillars from the tonsil, must be accredited to Dr. G. Sluder of St. Louis.

Referring to the title of this paper, I do not mean that the instrument illustrated as my tonsillectome is the only one applicable. As a matter of fact, any tonsil instrument which is provided with a strong fenestrum can be made use of in this technic of dislodgment and removal of the tonsil. Such instruments should be called tonsillectomes.

I must confess that while I tried to adhere to the technic laid down by Sluder, in reference to the molar eminence, I was unable always to do a perfect and complete tonsillectomy, and consequently have modified it as mentioned in Paragraphs 10 and 11.

After the very free flow of blood, however, that results from these sudden liberations of all the attachments of the tonsil by the use of the sharp guillotine, I have further modified the technic as mentioned in Paragraph 12.

Fig. 1.—The tonsillectome.

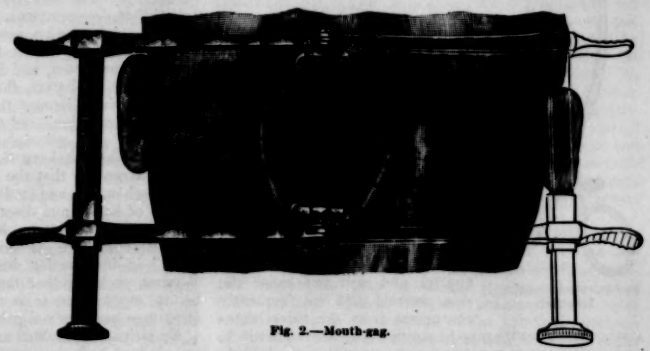

Fig. 2.—Mouth-gag.

POINTS IN TECHNIC

1. General preparation of the patient.

2. Atropin sulphate, 1/200 gr., half an hour before operation.

3. General anesthesia, ether preferred; patient in the recumbent position, and proper illumination.

4. My mouth-gag (to be described later).

5. Tongue-depressor, sponges, artery and volsellum forceps.

6. Method of operation: The anesthetist holds the head firmly. The tonsillectome is passed behind the tonsil, going across the tongue from the opposite angle of the mouth, scooping up the tonsil until it appears in the oral cavity in the form of a round tumor behind the anterior pillar. Holding the instrument firmly in this position, by gentle, steady pressure the operator feeds the tonsil through the fenestrum until it disappears under the finger. The snare is unlocked and the wire drawn down until the tonsil is seen on the inner side of the fenestrum, everted, forming a cauliflower-like mass. The tonsil is seized now with a volsellum forceps to prevent it from dropping into the throat when the crushing is completed. If the patient is now awakening, he should be reanesthetized while the tonsillectome is in position, and the tonsil slowly crushed under the mask while etherization is going on. The tonsil is removed and the capsule is found turned on itself. The same procedure is repeated on the opposite side. The same wire loop may be used for the second tonsil by pushing it back into the slit of the fenestrum.

There is practically no bleeding in the majority of cases, and if, as frequently occurs, the adenoid operation is to be performed, it is very much facilitated, owing to the absence of blood.

I have practically given up performing this operation under local anesthesia for these reasons: To do this operation thoroughly, the pharyngeal muscles must be completely relaxed and no amount of local infiltration anesthesia will accomplish this; the patient instinctively puts these muscles on tension when one attempts to lift the tonsil out of its fossa. Again, in the adult the small submerged flat tonsil is more firmly adherent, and it requires greater pressure to feed it through the fenestrum. To perform a tonsillectomy under local anesthesia I do the dissection method as mentioned in Paragraph 6.

In conclusion, I wish to say that occasionally one finds tonsils that cannot be removed by the instrument I am describing, or by the Sluder or the Ballenger instrument, and require being dissected in the usual way. This is particularly so in adult cases in which there have been many attacks of peritonsillar abscess, or in which an operation has been performed previously (stumps). It is my practice to discontinue the attempt of removing the tonsil with the tonsillectome as soon as I find that it will not readily be pushed through the fenestrum, and proceed with the usual dissection without further traumatization of the tissues. In very large tonsils one will

find some difficulty in working the tonsil through the small fenestrum, especially if the velar lobe is large, but by systematically pushing the tonsil through from below upward and taking care not to allow it to slip back, or to allow the instrument to be dislodged backward, one will observe, all of a sudden, a giving away of the resistance, and the tonsil is through the fenestrum. The smallness of this fenestrum in my instrument appears to be the first objection to any one not familiar with this method of operating, but I have found that it is preferable to larger sizes, because once the tonsil is worked through, it has a tendency not to slip back and can be snared off more easily.

In connection with this operation, I desire to present two new instruments:

1. Mouth-gag (Fig. 2), which is so constructed as to be always out of the way of the operator. The cross-bars may be turned from one side to the other without disturbing the portion fitting over the teeth. The patient may be placed in any position for operation. It is easy of introduction, and opening, fits jaws or teeth of almost any size or shape, and will not break the teeth or pinch the lips. These are some of the objections to the different mouth-gags on the market.

Fig. 3.—Tonsil-clamping hemostat.

2. Tonsil-clamping hemostat (Fig. 3). Should, for some reason or other, bleeding occur either at the time of operation or subsequently, it can always be controlled by this instrument. The inner blade has a cup, into which is drawn a large gauze sponge, and fastened by a thumb-screw. This gauze sponge fits into the cavity created by the operation. The outer blade has at its termination a small oval blade which comes in contact externally with the ramus of the jaw, and acts as the counterpressure for the sponge. It is not painful while applied and will not cause the skin necrosis that one frequently encounters from the older hemostats. The pressure may be regulated by the ratchet lock, and a gauze pad can be placed under the small blade between it and the jaw, thus relieving undue pressure at this point. I have been using this clamp more than two years, frequently placing it in one side while operating on the second tonsil, thus working in a bloodless field. For this purpose, however, since adopting the operation described in this paper, the clamp becomes unnecessary.

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Natural Feeding.—Statistics are eloquent in favor of natural feeding. Of 4,000 infants dying in Munich in 1903, 83 per cent. were artificially fed, and in Berlin, in a period of five years, only 9 per cent. of the infant mortality occurred in breast-fed infants. Holt states that, in 1903, of fatal cases due to digestive disturbances in infants, only 3 per cent. had been exclusively breast-fed. As our own Woods Hutchinson tells us: "The best way to modify cow's milk is to pass it through the body of the mother," and "the best and most paying job the community can set the mother at is that of raising her own child to the highest pitch of vigor and efficiency."—C. S. Sheldon in *Bull. Am. Acad. Med.*

EXPERIMENTAL THERAPEUTICS

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The treatment of every patient is more or less of an experiment. All therapeutics might therefore be termed "experimental"—but there is a vast difference between experiments! Experiments may be framed so loosely, the observations may be so superficial, the analysis of the results so careless, the deductions so illogical, that the experiment has no permanent value—it is not an experiment in the precise sense of the word. A great deal of the therapeutic experimentation of the past has been of this order. However much this sort of therapeutics may or may not help an individual patient, however much or little it may add to the individual experience of the practitioner who practices it, whatever use it may have in one way or another—and doubtless it has some use—it cannot be said to add anything substantial to the stock of human knowledge, to aid others materially in the treatment of their patients, to promote seriously the understanding of the principles of therapeutics.

It is often said—perhaps too often—that therapeutics is not a science, but an applied art. Granting this, is there an applied art which does not rest to some extent on scientific principles, on planned experiments, accurate and reliable observations and logical deductions? The difference between an exact science and an applied art appears to be this: that the applied art involves more or less of unknown, and therefore uncontrolled factors. The master of the art, through intuition or experience, may somewhat discount these uncontrolled factors. But what are "intuition" and "experience" if not a dim perception of the principles involved in the unknown factor? The less hazy the facts, the clearer the judgment. Granting that the day has not come—never will come—when we can reduce all the complicated conditions of health and disease to a mathematical equation—granting that human knowledge has its limitations, here as elsewhere—is this a good reason for "lying down" in inertia, for despairing of all improvement? Because we know that much of therapeutics will never be an exact science, is it necessary or advisable to encourage needlessly slipshod methods?

Empiricism has added much that is valuable to human knowledge—but also much of error. The quarrel of science is not with empiricism as such; the quarrel is with the usual by-products of empiricism: with superficial observation and wild deduction. A *fact* is a fact, whether it is discovered by an academician or by a hod-carrier. If science cannot explain a fact, so much the worse for science—the fact need not care. But science may well afford to be impatient of *pseudo-facts*. It may justly refuse to waste time on assertions which are based on slovenly observations. The man who makes an empirical discovery, who believes it to be a fact, has the moral obligation to establish by exact observation that it *is* a fact, and not a figment of his imagination. If he does not do this, he has no right to speak of it as a fact at all—whether it is a fact or is not a fact, he knows little or nothing about it. Even a lucky guess, even an intelligent guess, cannot pass current in science, is not a real addition to knowledge, until it has been subjected to a fair trial; until it is supported by evidence which is capable of convincing any critical but fair-minded person who is conversant with the subject.

Only then can it be considered as a fact scientifically established. Whether a fact is established or not makes little difference to the fact, but it makes a great difference to science and to humanity. Until a fact is properly established, it cannot be properly used.

The establishment of facts and of the principles which connect them is as useful, as indispensable, in the applied art of therapeutics as it is in any other applied art, or in any "pure" science. Facts and principles can be established only by intelligent and accurate experiments and observations. Hence the need of "experimental therapeutics" of which one hears so much in these days. Experimental therapeutics is not a new science or branch of science; it is nothing more or less than the investigation of therapeutic problems according to the accepted canons of experimentation. Such investigations can be made in a country doctor's practice or in well-equipped hospitals and laboratories—the particular problems might differ, but the spirit would be the same. The essential conditions are not in the material, but in the mental equipment, of the investigator. What is needed is, first of all, a frank dislike for cant—an inability, native or acquired, to accept superficial impressions and hasty conclusions as demonstrated facts. These, for want of something better, may have to do duty in active practice—but even here, they are hazy hints rather than useful tools.

The other requirements are: a problem, a plan to direct observations, accurate records, the comparison, analysis and synthesis of the results and, finally, logical and critical deductions. These requirements exist wherever and however experimental therapeutics is to be investigated.

In detail, the subject may be investigated either at the bedside or in the laboratory; on patients or on animals. Both methods are necessary; each has its peculiar field, its advantages and its drawbacks. There is nothing in the pretended quarrel between the pharmacologist and the clinician, in the pretended struggle for supremacy—nothing but pretense, "clouds of ink and vapors of words."

Pharmacology has for its object the investigation of the action of drugs, and the pharmacologist welcomes any fact bearing on this, with little care whether it comes from the clinic, or from the laboratory, or from the country practice. He welcomes it, whether he can explain it or not, whether it agrees or disagrees with his previous conceptions—provided only that it is a fact—that it bears evidence of being a fact and not an invention of the imagination. The complaint of the pharmacologist is not against clinical therapeutic facts; on the contrary, his complaint is that there are so few of them. He is struck with the paucity of exact, quantitative, critical records as to the effects of drugs on the human individual, either in health or disease. Every clinician has unlimited opportunities for making such observations—he need but stretch forth his hand, blindfold, to grasp a problem, worthy and easy of investigation. With such a wealth of virgin gold lying about uncovered, the pharmacologist—and incidentally also the scientifically trained clinician—cannot be blamed for being somewhat impatient with the counterfeit coinage that is everywhere thrust on him. This is not said in a spirit of fault-finding—all our houses contain some panes of glass.

This, then is one of the most important fields of experimental therapeutics—the carefully planned, accurately executed, and intelligently digested study of the effects of drugs on human patients. This is, of course, the province of the clinical therapeutist. The direct association of the experience of the pharmacologist can, however, be made very useful in this direction, as is shown by the fruits which the suggestions of Cushny are bearing in England. The development of the clinical branch of experimental therapeutics will have an even greater *indirect* influence on the laboratory branch of experimental therapeutics. As has been said, both the clinical and laboratory branches are absolutely necessary for the fruitful development of the subject: the clinical branch, because it furnishes the material, the problems, and the final test; the laboratory branch, because it can furnish a deeper analysis, and therefore a better understanding of the clinical facts. Clinical observations can be made (and to be of any use, they must be made) just as accurate as laboratory observations; but in the human subject, observations cannot be as readily controlled, the conditions cannot be so easily kept uniform or varied—in one word, the problems cannot be analyzed, as they can be in the animal.

The laboratory branch of experimental therapeutics also, is not a new subject. Its essence is nothing more or less than the study of the effects of drugs under abnormal conditions—and almost every analysis of pharmacologic action involves the creation of some abnormal conditions. It is not a new discovery that the action of drugs is modified by the conditions under which they act—this was known before modern pharmacology came into existence. This is merely one of the great but ancient problems of pharmacology, which has of late years received a considerable impetus. Pharmacology has so far concerned itself mainly in analyzing the actions of drugs under relatively simple conditions. As this task advances, the pharmacologist is in a position to vary and to complicate these conditions intelligently, and thus more of his problems come to lie in this special field of experimental therapeutics. This intelligent and planned variation in experimental conditions is at present a very popular subject of research, and deservedly so. It should be heartily welcomed, both by pharmacology and by clinical therapeutics.

Pharmacology, like every science, has its own fundamental problems—problems which often have no immediate practical bearing, though ultimately their practical importance may be all the greater. Like every other fruitful science, however, pharmacology is ever ready to help in the solution of the practical problems of the day. Its principal practical task is to help in the solution of the practical problems of therapeutics. In order that it may help intelligently, the therapeutists must state their problems clearly. As we have seen, this has often not been done, and thereby the usefulness of pharmacology has been greatly diminished, and thereby also misunderstandings have arisen between the more superficial, or more narrow, champions of the two camps. Incriminations and recriminations do not advance us much; the important question is not whether pharmacology or therapeutics shall lead; what leadership is needed, will fall to those who are best able to lead. The important and fruitful question is, how the two subjects can help each other most effectively. And here the cry of the pharmacologists to the clinicians is for problems which *are* problems. Let the clinicians set forth real facts; then the pharmacologist can investigate them and analyze them; he can deduce scientific principles, and even practical hints, which cannot fail to be of direct value to the clinician. When pharmacology and therapeutics do not agree, it means a mistake somewhere: somewhere, the problem has not been clearly stated, the

facts have not been accurately observed, the deductions have not been justified—and often, one can readily see that the mistake begins and ends with the clinician. This does not mean that the pharmacologist is infallible—he is subject to all the human errors of the clinician; but anyone familiar with the literature of both pharmacology and therapeutics can have no doubt as to which is more careful in verifying its "facts," and which, therefore, is more apt to be right.

The error of stretching the deductions beyond the facts may be made by pharmacologists as well as by clinicians. It is a common human failing—which, however, is greatly reduced by habits of accuracy. One particular phase of this is so important, practically, that a few words will be pertinent. I refer to the transfer of laboratory results to clinical practice. Some people affect to look down on experiments with the test-tube, the frog, the guinea-pig, the rabbit or the dog—somewhat as if man enjoyed a peculiar exemption from the laws of Nature. In some instances, this peculiar attitude is due to simple ignorance; in others it is assumed, consciously or unconsciously, from interested motives. These need not concern us. Every scientific worker concedes that there is danger in transferring the experience gained in one field to another field, even when the two fields are very similar. Every caution must be used to make the transfer safe. On the other hand, the progress of science depends on our ability to make such transfers, to "generalize" with judgment. Even medical practice depends entirely on just such transfers—on applying to the new patient the experience gained on the long line of his predecessors. It would be fair to ask where this caution is most often neglected: in the empirical transfer of "practical" experience, or in the critical transfer of laboratory results? The answer is scarcely doubtful.

Here, again, I do not believe that the laboratory pharmacologist is the conceited and dictatorial individual that he has been painted. Do not let us make the mistake of constructing the "ideal pharmacologist" out of our imagination, to meet the fancied needs of debate. Let us take him as he is, as we find him in his own mirror: the special pharmacologic and physiologic journals. If one looks through the papers in a pharmacologic journal without prejudice, one must be impressed by the consideration which is shown to clinical data. In nearly every case, the pharmacologist will seek to correlate his findings with the prevailing clinical opinions. Where he is unable to do this, he may insist that the clinical facts need further investigation or analysis in the light of his results—a fair request, as every one will acknowledge. When he finds that clinicians disagree, he may be pardoned for insisting somewhat on the uniformity and accuracy of his own results—although this may easily be overdone. But it is only when he can confirm and explain the results of the clinic that he speaks with any degree of assurance.

In brief, then, the advance of experimental therapeutics depends on the cooperation of pharmacological and clinical experimentation. The pharmacologist needs to extend his investigations to more varied conditions, so as to discover the basic principles. He is also needed to carry the analysis of the clinical data beyond the limits set by human material. The clinician should both furnish, and finally test, the practical problems. For this, it is essential that clinical experimentation should follow the canons of other scientific experimentation. Otherwise its scientific usefulness is *nil*, and even its practical usefulness is, at best, doubtful.

THE ACTION OF DRUGS IN PATHOLOGIC CONDITIONS

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The achievements of modern pharmacology may be regarded as twofold in character—scientific, by virtue of its contribution to physiology, and practical, on account of its service to therapeutics. By means of chemical substances we have been able to obtain valuable information concerning the physiologic processes in the lower organisms as well as in higher animals. We have increased our knowledge and broadened our ideas of metabolism in different species of animals, and learned that animals differing widely in structure may yet closely resemble each other physiologically. We have also learned, on the other hand, that important metabolic differences may exist even in forms which are closely allied, and which differ but little or not at all in their mode of living and environment.

The most important achievement, however, of modern pharmacology is its contribution to therapeutics. Not only can we lessen or abolish pain by means of chemical substances, but we are able at present even to eradicate disease. These marvelous practical results are largely due to the study of pharmacologic action and chemical constitution, which is the discovery that the reaction of the cell to a chemical substance may be modified or even completely reversed by a change in one or more elements or radicles of the molecule. The change may be one of substitution of a group, or it may simply be a transposition of a radicle in space. The results of these lines of inquiry suggest that pharmacologic action, which is determined by the interaction of cell and chemical substance, ought to vary whichever constant is modified. A change in the cell may be followed, therefore, by a corresponding difference in its reaction to pharmacodynamic agents.

Evidence is accumulating that any disturbance of the complex and delicately adjusted mechanism of the cell may lead to altered chemical and physical activity. Oxidation may be modified if equilibrium between inorganic ions and protoplasm is disturbed. The permeability of the blood-corpuscles may be altered by altering the physical condition of the colloids, which is likely to be of interest in connection with the mechanism of the penetration of substances into the cell, whatever that mechanism may be, whether physical, as Overton[1] believes for the basic dyes, or chemical, as held by Mathews[2] for these substances, and by Koch[3] for strychnin and other drugs.

Indeed, experimental evidence which has of late years been forthcoming indicates that the reaction of the cell to foreign substances may be quantitatively and even qualitatively different under changed conditions of environment, or after the production of changes morphologic, chemical or physical in character. As will be shown later, a disturbance in any of these factors may bring about corresponding variations in pharmacologic action.

The effects of potassium cyanid on the cell under normal conditions are too well known to need mention. Loeb[4] has shown that the effect on sea-urchin eggs of

1. Overton: Vrtljschr. d. naturf. Gesellsch. in Zurich, 1899, xliv, 88.
2. Mathews: Jour. Pharmacol. and Exper. Therap., 1910, ii, 167.
3. Koch: Jour. Pharmacol. and Exper. Therap., 1910, ii, 265.
4. Loeb: Die chem. Entwickelungs Erregungen des tierischen Eies, Berlin, 1909, p. 53.

hypertonic solutions may be inhibited by small quantities of potassium cyanid and thus the life of the cell may be saved. A complete reversal of effect of potassium cyanid is thus obtained by simply changing the osmotic conditions of the surrounding fluid of our organism.

According to Warburg,[5] barium chlorid, which has no influence on the respiration of the normal red blood-cells in the bird, inhibits oxygen metabolism after the cell membrane has been destroyed by alternately freezing and thawing.

From Stewart's[6] experiments on the mechanism of hemolysis, it appears that the hemolytic action of saponin is diminished when the blood contains ammonium chlorid.

The modifying effect of changes within as well as without the cell on the behavior of chemical reagents when brought in contact with it is also made evident by experiments on higher animals and under conditions far more complex.

Thus Fleischer and Loeb[7] found that calcium chlorid solution increased the transudation of fluid into the peritoneal cavity in normal rabbits. According to experiments reported recently by Chiari and Januschke,[8] the pleural exudates caused by various inorganic poisons and diphtheria toxins in dogs and in guinea-pigs may be diminished or completely prevented by the intravenous injection of small doses of 3 per cent. solutions of calcium chlorid.

The work of Ellinger[9] shows that a change of chemical reaction in the surrounding fluid may render innocuous the poisonous action of cantharidin on the glomeruli of the kidney. Cantharidin given to rabbits which were fed carrots, thus rendering the urine intensely alkaline, was not followed by nephritis.

Ehrlich[10] observed, in rabbits infused with a solution of methylene-blue, well-marked staining of the pancreas due to staining of the granules and protoplasm of the islands of Langerhans. He failed to observe staining of the nerve-ends under these conditions. If certain dyes of the triphenylmethane series be added to the solution of methylene-blue, the nerve-ends become stained, although neither of the substances alone is capable of staining these end-organs. Ehrlich assumed, therefore, a change in the function of the nerve apparatus, which alters its absorbing power. The studies of Bondy and Jacoby[11] on the distribution of salicylic acid have shown that the joints of animals infected with *Staphylococcus aureus* contain larger quantities of this substance than those of normal animals similarly treated. The distribution of iodin in the tissues after the administration of potassium iodid shows that in health the blood contains more iodin than any other tissue. According to the findings of Loeb and Michaud,[12] the eye and the lungs of tuberculous animals may contain more iodin than the blood, while the organs with tuberculous lesions contained 50 per cent. to 150 per cent. more iodin than the same organs when free from this disease. They also state that the amounts of iodin were proportional to the extent of the involvement, and varied with the progress of the tuberculous process. Differences in the distribution of iodin after the administration of potassium iodid have also been reported in carcinoma by von den Velden.[13]

These facts indicate that the selective action of drugs is at least quantitatively modified by morbid changes.

That interference with the functions of an organ or its complete removal from the body modifies the action of drugs was pointed out long ago by the classical experiment of Claude Bernard (and later by Hermann[14]), in which it was shown that after ligation of the ureter or renal blood-vessels in the rabbit, curara becomes toxic when given by mouth.

The investigations on the pharmacology of epinephrin have shown that under conditions induced experimentally some of its characteristic actions observed in normal animals may be either suppressed or completely reversed. Ellinger[15] failed to observe epinephrin glycosuria in rabbits when nephritis had been produced by cantharidin or by ligating the renal blood-vessels. Meltzer[16] states that by cutting vasomotors on one side or after elimination of the central innervation of the blood-vessels in the ear of the rabbit, the subcutaneous administration of medium doses of epinephrin was followed by constriction, while in the normal rabbit the drug causes dilatation of these vessels. The action of epinephrin varies also in inflammatory conditions, according to the same observer;[17] for he failed to obtain in inflamed areas the constriction of the vessels which it causes in simple hyperemia or in normal tissues.

Within recent years data have been accumulating on the behavior of drugs in conditions of profound disturbance of metabolism such as is caused by the removal of the organs of internal secretion. Omi's[18] experiments with salicin in the dog after removal of the pancreas brought to light the interesting fact that the liver of such animals acquires the ability to break up this glucosid into its component parts—a function the livers of normal carnivora possess to a slight degree or not at all, while Jeandelize and Perrin[19] claim to have observed an increase in the toxicity of sodium arsenate and of mercuric chlorid in thyroidectomized rabbits.

On the other hand, it has been the experience of many clinicians that patients with exophthalmic goiter are very susceptible to anesthesia. After feeding thyroid to mice and guinea-pigs Hunt and Seidell[20] observed diminished resistance to morphin. They also reported that thyroid feeding also lowered the resistance of rats to acetonitril, but increased the resistance of mice to this substance.

The complex physical and chemical processes set in motion by febrile conditions have within recent years claimed the attention of the physiologist as well as that of the biochemist. The data already obtained, meager as they are, justify the hope that this is a fruitful line of investigation, and that patient and diligent efforts will have their reward. We know already that protein catabolism is much accelerated in fever. According to Kastle,[21] oxidation in many diseases accompanied by a febrile condition shows many departures from the normal. As this is probably true of other processes in the body under these conditions, it would seem *a priori* that the reaction to foreign substances introduced into the

5. Warburg: Ztschr. f. physiol. Chem., 1911, lxx, 413.
6. Stewart: Jour. Pharmacol. and Exper. Therap., 1909, i, 49.
7. Fleischer and Loeb: Jour. Exper. Med., 1910, xii, 288.
8. Chiari and Januschke: Arch. exper. Path. u. Pharm., 1911, lxv, 120.
9. Ellinger: München. med. Wchnschr., 1905, lii, 499.
10. Ehrlich: Studies on Immunity, 1906; Eng. trans. by Bolduan.
11. Bondy and Jacoby: Beitr. z. chem. Phys. u. Path. (Hofmeister), 1906, vii, 514.
12. Loeb and Michaud: Biochem. Ztschr., 1907, iii, 307.
13. Von den Velden: Biochem. Ztschr., 1908, ix, 54.
14. Hermann: Arch. f. Anat., Physiol. u. wissensch. Med., 1867, p. 64.
15. Ellinger: München med. Wchnschr., 1905, lii, 499.
16. Meltzer and Meltzer: Am. Jour. Physiol., 1903, ix, 252.
17. Meltzer and Meltzer: Jour. Med. Research, 1903, x, 136.
18. Omi: Biochem. Ztschr., 1908, x, 258.
19. Jeandelize and Perrin: Compt. rend. soc. de biol., 1908, i, 233; ii, 235; 1910, lxviii, 146.
20. Hunt and Seidell: Bull. 47, Hyg. Lab., U. S. P. H. and M.-H. S.
21. Kastle: Bull. 31, Hyg. Lab., U. S. P. H. and M.-H. S.

body would also be altered. Indeed, this contention is fully borne out by experiments on animals as well as by bedside experience, as shown by the results obtained with the antipyretics.

Wachsmuth,[22] and later Liebermeister,[23] announced about half a century ago that the action of quinin is different in health and in disease.

Liebermeister[23] made numerous observations with this drug in a variety of conditions accompanied by pyrexia, and noticed that in some cases of typhoid, doses which exert a marked depression of temperature in the later stages of the disease have no antipyretic effect in its earlier stages. It occurred to him then to study the action of the drug in health as regards its effect on temperature. He therefore carried out a number of observations with quinin on convalescents from typhoid and other febrile diseases when the temperature became normal. The results show that in some cases a marked reduction of temperature occurred after the administration of the same doses of this drug. In other cases no effect on the temperature was observed, but even in those cases of apyrexia in which quinin reduced body temperature, the effect, he states, was less marked than in fever. The administration of the drug in health, as observed by him in one case, shows that large doses may be borne without affecting body temperature. Thus 40 grains of quinin administered in seven hours failed to lower the temperature in a healthy subject. Likewise Jurgensen[24] states that doses which lower the temperature in disease remain without effect in health. Buss,[25] who experimented with doses of 1 to 2 gm., found that these amounts did not affect temperature in health. Observations on the synthetic antipyretics are not quite so concordant. Riess[26] failed to obtain marked reduction of temperature in health with salicylic acid. After the administration of 5 gm. he observed a fall of only 0.9 C. The same dose, when given in febrile conditions, lowered the temperature 2 to 6 degrees C. Buss,[27] who carried out experiments himself, and others, asserted that they never observed any lowering of temperature in febrile cases. Kairin in doses up to 1.5 gm., according to Filehne,[28] has no effect in health; a single dose of 0.5 to 1 gm. lowers the body temperature 0.5 to 2 degrees C. in fever. According to Cohn and Zadek[29] this drug does not affect normal temperature after the administration of 3 gm. When given in pneumonia, typhoid, and other febrile conditions, 0.25 lowered the temperature 0.5 C. to 1 degree C. Maragliano and Queirolla[30] gave 4 to 5 gm. an hour to ten healthy individuals, but were not able to induce a lowering of the temperature in any of them. After .5-.1 gm. doses of kairin given in fever, however, they observed a reduction of temperature of from 2 to 4 degrees. Moreover, the antipyretic effect they noticed varies directly with the fever. Murri[31] observed a fall of from 3 to 5 degrees in febrile patients, but obtained no effect in normal individuals when given the same amounts distributed over an equal length of time. Similar results were obtained with antipyrin. Some observers state that slight reduction of temperature was noticed after taking antipyrin in afebrile conditions, but reduction was much less than in disease accompanied by fever. Friedrich Müller[32] observed that after the administration of large doses of antipyrin the temperature goes down even in normal individuals, but the reduction is slight—only 0.2°. The same observer reported marked diminution of the elimination of nitrogen when antipyrin was given in fever, but obtained little or no effect on protein metabolism when the drug was administered in health.

Pusinelli[33] corroborated the observation of Müller on the effect of this drug on temperature in health; after the administration of 1 gm. to a healthy individual the reduction in temperature amounted to a few tenths of a degree C. He observed, on the contrary, a slight rise of temperature after giving doses of from 2 to 3 gm. to a healthy person. The dose he employed in fever, which varied between 0.5 to 2 gm., lowered body temperature from 1° to 2° C. one hour after its administration, and later a further decrease of temperature was noted.

Acetanilid, as might be expected, has been the subject of numerous experimental studies on man and on animals as regards its action on the body temperature. Simpson[34] reported a slight fall of temperature (about 0.6° F. maximum) after taking fairly large doses in health. The same doses in febrile conditions were followed by a fall of 2° F. Cahn and Hepp,[35] who made observations on animals with relatively large doses, stated that the temperature of normal animals is not affected. This seemed contradicted by the experiments of Lépine[36] and Bokai.[37] A critical examination of their experiments, however, shows that the conditions under which they were carried out leave serious doubt whether the animals could be considered normal. Bokai experimented on dogs in a condition of narcosis induced by opium and gave them 0.25 gm. of acetanilid per kilo, which is a very large dose. The size of the dose may also account for the results obtained by Lépine, who administered 0.3 gm. acetanilid per kilo intravenously to dogs and subcutaneously to rabbits. Sackur,[38] who carried out an elaborate series of experiments on forty-eight individuals with sodium salicylate, kairin, antipyrin, thallin, acetanilid and acetphenetid, came to the conclusion as a result of his observations that doses which lower the temperature in disease have no influence on temperature in health. Indeed, in some cases, he states that he sometimes observed a rise of temperature in healthy people after the administration of these drugs.

The difference in response of the body to these drugs in febrile conditions may be due, however, to toxins as well as to uneven rise of body temperature. Inanition, partial or complete, is another factor which ought to be taken into account, since little or no food is taken in these conditions. Let us examine what evidence we have on these points, in conditions in which the body temperature was varied by experiments on healthy animals, causing it either to rise above or fall below the normal.

Wagner[39] has shown that the immunity of the hen to anthrax may be abolished by producing a hypothermia. Gibier and Metchnikoff[40] increased the susceptibility of the frog to this disease by submerging it in water at a

22. Wachsmuth: Arch. f. Heilk., 1863, iv, 73.
23. Liebermeister: Deutsch. Arch. f. klin. Med., 1867, iii, 660.
24. Jurgensen: Die Körperwärme des gesunden Menschen, Leipsic, 1873, p. 41.
25. Buss: Ueber Wesen und Behandlung des Fiebers, Stuttgart, 1878, p. 168.
26. Riess: Berl. klin. Wchnschr., 1875, xii, 673.
27. Buss: Deutsch. Arch. f. klin. Med., 1875, xv, 457.
28. Filehne: Berl. klin. Wchnschr., 1882, xix, 681.
29. Cohn and Zadek: Deutsch. med. Wchnschr., 1883, ix, 487.
30. Maragliano and Queirolla: Centralbl. f. med. Wissensch., 1884, xxii, 672.
31. Murri: Centralbl. f. med. Wissensch., 1884, xxii, 428.
32. Müller: Centralbl. f. klin. Med., 1884, v, 570.
33. Pusinelli: Deutsch. med. Wchnschr., 1885, xi, 145.
34. Simpson: New York Med. Rec., 1887, xxxii, 706.
35. Cahn and Hepp: Centralbl. f. klin. Med., 1886, vii, 562.
36. Lépine: Lyon. Med., 1886, liii, 269.
37. Bokai: Deutsch. med. Wchnschr., 1887, xiii, 905.
38. Sackur: Dissertation, Breslau, 1890, p. 35.
39. Wagner: Quoted by Zeehuisen; see note 46.
40. Gibier and Metchnikoff: Quoted by Zeehuisen; see note 46.

temperature of 35 to 37 C. Similar results were reported by Doyen and Courmont,[41] and later by Morgenroth,[42] who abolished the immunity of the frog to tetanus toxin by raising the surrounding temperature to 20 C.

The influence of temperature on the toxicity of inorganic substances, alkaloids, glucosids and narcotic drugs has been the subject of a number of investigations. The narcotic effect of morphin in frogs is said to be increased, according to Hausmann,[43] when these animals are placed in water at a temperature of 20 to 26 C. He points out that the narcotic effect of this drug is decreased when the temperature is lowered, but tetanus occurs more readily.

This investigator[44] also made very interesting observations in his studies with colchicin, tannin, saponin and abrin on hibernating bats. He found that the toxicity of these substances was much greater when treated animals were placed in a thermostat than when allowed to remain in the cold. The experiments he carried out later, jointly with Kolmer,[45] on unicellular animals, corroborate these findings. Colloidal silver was shown to be more toxic to paramecia when the temperature of the solution was raised from 15 C. to 33 C. The results with colchicum in this connection were especially striking. Paramecia placed in 1 per cent. solutions were normal after four days, when the temperature was 15 C., but when the temperature was raised to 33 C. the duration of life was only three and one-half hours.

Zeehuisen[46] studied the action of apomorphin and of morphin in pigeons in hypothermia and in hyperthermia. When the temperature was moderately lowered he observed diminished movements and a decreased tendency to vomiting after the administration of apomorphin. When the temperature of the pigeons was reduced from 3° to 15° C., there was complete inhibition of emesis. The toxicity was at the same time increased; there was greater nervous irritability, and convulsions were induced more easily. When the temperature was higher than normal the emetic action of the drug was lost and the movements of the beak ceased. The toxicity of morphin was increased when the temperature was raised, but was not affected in hypothermia.

According to Veley and Waller,[47] who studied the effect of chloroform, alcohol, quinin and aconitin, toxicity of these substances was greater at a higher temperature. In their observations on the effects of these substances on the contraction of striated muscle, they found that a muscle exposed to a two-thousandth normal solution of quinin recovers at once at a temperature of 19 C.; when the temperature of the solution was 25 C., recovery was delayed five minutes. Muscular fatigue after alcohol is similarly influenced. Recovery begins after one minute at a temperature of 20 C., but is retarded four minutes at a temperature of 24 C.

Experiments on man and animals in starvation with alanin are suggestive from our point of view. After the feeding of subcutaneous injections of 15 gm. of inactive alanin in starving dogs, Rachel Hirsch[48] found the levorotatory alanin in the urine. The same amount, she states, was completely destroyed when given to well-fed dogs. She reported similar results with alanin in starving phloridzinized dogs, and Brugsch and Hirsch[49] corroborated these findings in a professional faster.

These experiments would lead to the expectation that a difference may also result in the action of drugs when the diet has been restricted or when food has been withheld altogether for a sufficient length of time. The following investigations lend support to this view.

Jordan,[50] who carried out a number of experiments with digitalin on dogs, which he allowed to fast from three to twelve days, reported that symptoms appeared after much smaller doses of the drug in starvation. It is interesting to notice that he also observed diminished irritability of the vagus in hunger, which decreases with the length of starvation. According to Roger,[51] atropin and quinin sulphate are less toxic to rabbits which were starved twenty-four to twenty-six hours. He found that after injection of quinin sulphate into a peripheral vein the minimum toxic dose was about 25 per cent. greater in starving rabbits. But when this drug was injected into the portal vein the fatal dose for the well-fed rabbits was 160 mg. per kilo, and only 86 mg. per kilo for the starving animals. He obtained the same results with atropin, but his findings with nicotin were negative.

Aducco[52] studied, in several species of animals, the resistance of drugs in starvation, and found that in inanition strychnin, phenol and cocain are more poisonous to dogs, rabbits, guinea-pigs and pigeons.

Monaco and Trambusti,[53] on the other hand, reported that death in phosphorus poisoning is delayed in complete inanition, while an abundant diet hastened death in dogs and rabbits poisoned with this substance. The work of Mansfield[54] shows that doses large enough to cause a slight reaction in well-nourished rabbits, were fatal to the same animals when starved from five to ten days. According to Mansfield and Fejes,[55] the brain in starving rabbits retains larger amounts of chloral than the brain of well-fed rabbits. At the end of thirty minutes, the amount of chloral in the brain was about the same in normal and in starving rabbits. At the end of one hour the difference was about 50 per cent. After one and one-half hours the brain of the starving rabbit contained almost twice as much chloral as that of the normal rabbits. Experiments with alcohol failed to show, however, any difference in the alcohol content of the brains of well-fed and of starving rabbits.

In experiments on the toxicity of caffein, Salant and Rieger[56] found that rabbits which had been starved five to six days were less resistant to this drug than well-nourished rabbits. The toxicity when food was withheld increased 30 per cent. in nearly all the cases examined. On the other hand, the recent work of Hunt[57] shows that partial starvation may increase the resistance of animals to some poisons. He found that mice and guinea-pigs which received only small quantities of food survive doses of acetonitril which proved fatal to these animals when the amount of food given was unrestricted.

Attention may also be directed toward chronic alcoholism and chronic lead-poisoning as conspicuous examples in which changes in the body associated with abnormal metabolism determine important differences in the

41. Doyen and Courmont: Compt. rend. Soc. d. biol., 1893, xlv, 618.
42. Morgenroth: Arch. internat. de pharmacol. et de thérap., 1900, vii, 265.
43. Hausmann: Arch. exper. Path. u. Pharmakol., 1905, lii, 315.
44. Hausmann: Arch. f. d. ges. Physiol., 1906, cxiii, 317.
45. Hausmann and Kolmer: Biochem. Ztschr., 1907, iii, 503.
46. Zeehuisen: Arch. exper. Path. u. Pharmakol., 1895, xxxv, 181.
47. Veley and Waller: Proc. Roy. Soc., London, 1910, Ser. B, 82, p. 205.
48. Hirsch: Ztschr. f. exper. Path. u. Therap., 1905, i, 141; 1906, ii, 668.
49. Brugsch and Hirsch: Ztschr. f. exper. Path. u. Therap., 1901, iii, 638; 1907, iv, 947.
50. Jordan: Centralbl. f. med. Wissensch., 1895, xxiii, 145.
51. Roger: Compt. rend. Soc. d. biol., 1887, series 8, iv, 166.
52. Aducco: Centralbl. f. inn. Med., 1894, xv, 700.
53. Monaco and Trambusti: Central. f. inn. Med., 1894, xv, 701.
54. Mansfield: Arch. internat. de pharmacol., et de thérap., 1905, xv, 467.
55. Mansfield and Fejes: Arch. internat. de pharmacol. et de thérap., 1907, xvii, 348.
56. Salant and Rieger: Proc. Am. Soc. Pharmacol. and Exper. Therap., Jour. Pharmacol. and Exper. Therap., 1910, i, 569.
57. Hunt: Bull. 69, Hyg. Lab., U. S. P. H. and M.-H. S.

behavior of drugs, both as to their total effect or as to some of the changes they undergo in the body.

Hunt[58] has shown that resistance to acetonitril in chronic alcoholism is diminished. In experiments which I made recently[59] with chenopodium oil it was observed that the toxicity of this substance was markedly diminished in rabbits which had received alcohol for several weeks. Some unpublished work of this laboratory[60] on caffein and theobromin indicates that demethylation is retarded in rabbits which received alcohol for two weeks. Since demethylation is in all probability an attempt of the body to reduce the toxicity of the methyl purins it may be inferred that retarded demethylation is likely to increase the toxicity of the substances. In numerous observations I made on the toxicity of caffein in animals, I have been impressed with the greater susceptibility of rabbits to caffein when these animals show well-marked lesions of coccidiosis of the liver or other lesions. It is quite possible that retarded demethylation is responsible for these results. Experiments on resistance to drugs in chronic lead-poisoning have not been made to my knowledge. I could find only one statement, by Otto Loewi,[61] to the effect that much smaller doses of atropin are effective in this condition.

The subject of fatigue has received considerable attention within recent years from physiologists in this country and abroad. The work of Lee[62] on frog muscle indicates that muscular fatigue in these animals is caused by carbonic acid, sarcolactic acid and the monobasic phosphates. Whether other substances may likewise cause fatigue, as has been asserted by some investigators, is for the present unknown, nor are there any data regarding the causation of general fatigue of the nervous system. Evidence of the presence of profound changes of the nervous system in this condition was presented by the recent work of Barbour and Abel.[63] In their experiments with acid fuchsin, they made the following observations. Tetanus appeared in normal frogs one to twenty hours after injection of 1 to 4 mg. acid fuchsin per kilo, while in some frogs even much larger doses failed to produce symptoms. Frogs which have been exercised until fatigue was produced reacted to this drug much more quickly and after smaller doses. Some of these experiments were carried out on the same animals in normal condition and fatigued; doses which produced no effect at first, several days later were followed by tetanus within ten minutes after injection when the subjects were fatigued.

Abnormalities of the organs of circulation, whether produced experimentally or occurring naturally, likewise afford instances of modified pharmacologic action which may be quantitative or even qualitative. Von Plavec[64] and others pointed out several years ago that cardiac activity is increased after theobromin in the diseased heart, but the drug has no effect on the heart in health. Caffein in collapse is cited by him as another instance. A dose just large enough to cause a mild stimulating effect in the healthy individual will increase many times the pulse volume and amplitude in collapse.

The same observer[65] reported that 0.2 to 0.3 gm. theobromin and theophyllin given three times a day have no effect on the frequency or quality of the pulse in health. In advanced cases of failing compensation, however, he noticed a striking increase of cardiac activity after the administration of such doses of these drugs. Frankel and Schwarz[66] made a number of experiments with milligram doses of strophanthin which they injected intravenously into individuals with normal heart action, but failed to notice any circulatory changes or any effect on diuresis. The same doses of strophanthin, when given in cases of valvular disease with failure of compensation well established, were followed by a decrease of frequency and an increase in amplitude of the pulse. Cloetta's[67] studies with digitalis are of interest in this connection. He has shown that in rabbits, in which he induced aortic insufficiency with cardiac hypertrophy, digitalis caused diminished cardiac hypertrophy and changes in the circulation. Similar experiments with digitalis on the healthy rabbit were without any effect. According to Bielfeldt,[68] injection of glycogen in healthy horses is followed by slight rise of temperature, increased frequency of pulse and respiration. In sick horses which suffer from cardiac weakness, the injection of glycogen decreases pulse frequency and at the same time strengthens heart action. Eychmüller[69] made a number of observations with therapeutic doses of digalen. He reported a moderate increase in amplitude and slowing of the heart-beat in the healthy heart. In valvular lesions with failing compensation, the effect of the drug was much more marked in these respects. That differences in the mechanism or mechanisms of adjustment in abnormal conditions are, in some instances at least, the cause of altered pharmacologic action is strikingly illustrated in the case of amyl nitrite. According to Rzentkowski,[70] this drug does not cause a fall of blood-pressure in health as it does in cases of arteriosclerosis. This, he believes, is because in health there is a compensatory constriction of the abdominal vessels which is lost in arteriosclerosis.

Injury to the cardiac muscle likewise modifies its reaction to drugs. This was shown some years ago by Talma and Weyde,[71] who reported that the action of ammonia was much less favorable on the heart of the frog after it was poisoned by quinin. More recently Nicola[72] studied the influence of barium chlorid in fatty degeneration of the heart induced experimentally. He states that barium chlorid has no effect on cardiac activity when the process is well advanced. According to the observations which Wiggers[73] reported recently, anemia produced experimentally modifies the action of a number of drugs. Retardation of the pulse observed after the administration of epinephrin under normal conditions was not seen when this drug was given in hemorrhage, according to this observer. Digitalis likewise loses its retarding effect under these conditions. Changes in the action of the nitrites, nitroglycerin, ergotin, morphin and chloroform on the circulation as a result of hemorrhage have also been reported by him.

The data presented above, although incomplete, ought to be sufficient to serve as a stimulus to further research in the direction suggested. To assume that a substance introduced into the body will produce the same effect under all conditions is unjustifiable and may lead to

58. Hunt: Bull. 33, Hyg. Lab., U. S. P. H. and M.-H. S.
59. Salant: Proc. Am. Soc. Pharmacol. and Exper. Therap., Jour. Pharmacol. and Exper. Therap., 1911, ii, 391.
60. Salant and Phelps: Unpublished results.
61. Loewi: Wien. klin. Wchnschr., 1910, xxiii, 274.
62. Lee: THE JOURNAL A. M. A., 1906, xlvi, 1491.
63. Barbour and Abel: Jour. Pharmacol. and Exper. Therap., 1910, ii, 167.
64. Von Plavec: Arch. internat. de pharmacol. et de therap., 1904, xiii, 275.
65. Von Plavec: Arch. internat. de pharmacol. et de therap., 1908, xviii, 499
66. Frankel and Schwarz: Arch. exper. Path. u. Pharmakol., 1908, suppl., p. 188.
67. Cloetta: Arch. exper. Path. u. Pharmakol., 1908, lix, 209.
68. Bielfeldt: Dissertation, Berne, 1909.
69. Eychmüller: Berl. klin. Wchnschr., 1909, xlvi, 1677.
70. Rzentkowski: Ztschr. f. klin. Med., 1909, lxviii, 3.
71. Talma and Weyde: Ztschr. f. klin. Med., 1885, ix, 276.
72. Nicola: Arch. farmacol. sper., 1908, vii, 219.
73. Wiggers: Proc. Am. Soc. Pharmacol. and Exper. Therap., Jour. Exper. Pharm. and Therap., 1911, ii, 391.

error, and in therapeutics to serious consequences. The factors which determine the action of a drug are numerous. Mention was made above of the fact that oxidation, synthesis and other chemical processes in the body are in all probability affected in disease. In addition to these, the processes of absorption and elimination should be taken into account. It has been shown experimentally that these processes are modified in some conditions. Thus, after the removal of the kidneys in the rabbit, the rate of absorption from the peritoneal cavity is increased. This was shown several years ago by Meltzer and Salant,[74] and has been corroborated recently by Fleischer and Loeb.[75] Mayerhofer and Pribram[76] observed improved absorption of toxins, ferments, potassium chlorid, proteins, and so on, from the small intestine of animals in which enteritis was induced experimentally. Outikhine's[77] observations in experimental keratitis afford corroborative data on this subject. He states that the coefficient of absorption of fluorescin is increased from 2 to 38.4 in the anterior chamber of the eye and atropin is absorbed much faster from the conjunctiva in experimental keratitis. The recent experiments of McCrudden,[78] on the other hand, point to increased rate of elimination when the intestines are hyperemic or inflamed. He found that the elimination of morphin is more rapid after the administration of croton oil, quillaja, senega, mustard oil or alcohol. McCrudden[78] believes that since these substances are local irritants they cause hyperemia and increased secretion, which favors better elimination of this drug. It would seem, therefore, that in some conditions the effect of drugs may be more easily absorbed and eliminated faster. On the other hand, if the organs of absorption and elimination are diseased so that their functions are not affected to the same degree, and compensation is not established, the effect of a poison might under these conditions be different. As all processes called into existence by experimental procedure or in the course of disease are far from being understood, prediction of the action of a drug can at best be only approximate. And, indeed, sometimes the results may be altogether surprising. I may give an illustration from my own experience. Several years ago Dr. Meltzer and I were engaged[79] in the study of the effect of strychnin in nephrectomized rabbits. Since strychnin is entirely eliminated by the kidneys, their excision ought to render the drug more toxic to this animal. Indeed, it was taken for granted by some experimenters that strychnin administered to nephrectomized animals would necessarily produce the usual symptoms as soon as enough of it had been administered, even if given in divided doses.

As a matter of fact, the single toxic or fatal dose was found to be, in our experiments, even somewhat larger after the kidneys were removed. More interesting still was the fact that when the drug was injected very slowly or by the administration of subminimum doses at sufficiently long intervals of time, three to four times the amount were required to produce the characteristic reaction.

This is certainly a striking illustration how misleading *a priori* conclusions in biology may be. The value of speculation and of theory is by no means to be underrated. Indeed, this is to be encouraged in every laboratory for biologic experimentation. Its greatest, and, indeed, its only value, however, is to stimulate investigation, for experimental evidence is the only safe and reliable test of the validity of a theory.

74. Meltzer and Salant: Jour. Med. Research, 1903 xi, 30.
75. Fleischer and Loeb: Jour. Exper. Med., 1910, xii, 487.
76. Mayerhofer and Pribram: Ztschr. f. exper. Therap., 1909, vii, 247.
77. Outikhine: Dissertation, St. Petersburg, 1907; Ann. d. ocul., 1909, cxli, 74.
78. McCrudden: Arch. exper. Path. u. Pharmakol., 1910, lxii, 374.
79. Meltzer and Salant: Jour. Exper. Med., 1901, v, 643

CONSTITUTIONAL INFERIORITY AND ITS PSYCHOSES

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The term "constitutional inferiority," which has found prompt adoption in America because it filled a need in our psychiatric nomenclature, and which is already beginning to creep into the expert testimony of our medicolegal cases as a plea for irresponsibility, owes its introduction into this country to Dr. Adolf Meyer.[1] He states that in seeking a designation which would "do justice to the hysterias and psychasthenias, which could be defined as such," while realizing "that there was a whole group of cases in which such a definition could not be maintained," he decided to include the latter under the heading of "constitutional inferiority." However, he admits his indebtedness to Koch, who had been designating the oddities and peculiar nicks in the personalities of various people under the classification of *psychische Minderwertigkeiten* (psychic inferiority). In the discussion of constitutional inferiority, as here considered, we must at the outset waive the theory that practically all persons who fall subject to functional psychoses are congenitally predisposed by an abnormal psychic make-up, a condition so well recognized that in the discussion of the characters of patients and even acquaintances psychiatrists are apt to resort to such descriptive terms as the manic make-up, the melancholic make-up, the præcox type or the shut-in personality.

There are annually admitted to the New York State Hospitals a comparatively very small group of patients with puzzling, atypical cases, differing widely in mental make-up, who are embraced in the group of constitutional inferiors, and who in many instances present not only difficulty in diagnosis, inasmuch as their alienation does not adhere to any recognized forms of mental disorders, but whose responsibility and consequent detention permits unlimited divergence of opinion.[2] It is a study of the male patients so classified who were discharged from the Manhattan State Hospital from October, 1907, to October, 1910, which forms the basis of this paper.

In a sense the term constitutional inferiority is a misnomer, for the word "inferior" seems inevitably to connote mental debility, whereas in a psychiatric sense an inferiority does not necessarily imply an intellectual defect, but may imply an inferior emotional equilibrium in the intellectually brilliant. Through an erroneous conception of the term there have been comprised in the group of constitutionally inferiors all varieties of constitutional abnormality, from the mentally defective, i. e., the congenitally high-grade imbecile or those enfeebled by such extraneous factors as the febrile intoxications or traumas in childhood, to those who are mentally brilliant though asymmetrically developed. In reality, we can distinguish in this group two types of inferiority: qualitative and quantitative.

1. Meyer, Adolf: Discussion of paper on Constitutional Abnormality by C. P. Oberndorf, New York State Hosp. Bull., ii, 823.
2. Wright, H. A.: New York Med. Jour., December, 1908.

QUALITATIVE INFERIORITY

Persons belonging to the class marked by qualitative inferiority possess many characteristics often found in men of genius and successful achievement, but they lack the determination and poise to complete cleverly though impulsively conceived plans. After a transient outburst of intense application, the individual fluctuates, hesitates and discontinues without plausible reason. In the sense of being mentally defective the members of this class are not inferior; in fact, their mental attainments to a certain extent elevate them above the humdrum mediocrity of work-a-day normality, especially in their own estimation, for self-appreciation is a dominant qualification. These intellects, however, which are so unequally developed, allow one special aptitude to flourish at the expense of other faculties, though, as a rule, in no particular sphere is the defect so marked as to entail permanent pathologic consequences. The qualitatively inferior—the disequilibrated, as the French pithily express it—exhibit a defect of kind, not of amount.

It appears that in the development of any personality, either normal or abnormal, the strength and nature of the emotional trend tends to overbalance intellectual influences, since the latter are acquired while the former are congenitally inherent. This is especially so in the psychopathic or qualitatively inferior person, who, though often exceptionally well educated, fails to show normal restraint, is inclined to exaggerate and magnify trifles and to attach undue importance to minor incidents—a characteristic attributable to increased impressionability, sympathy, susceptibility and sensibility.

Thus the qualitatively inferior, who so frequently advocates delicate though warped ideals, at times actually does achieve, especially in artistic spheres, the unusual and seemingly unfeasible — things which the more normal and circumspect person would never consider undertaking.

As an example of this type, I mention a patient who has attained considerable popularity as the author of a certain class of fiction, and who might readily have been considered a prodigy. As a child of 4 years he was found constantly running about with an encyclopedia under his arm, and had so many facts at his disposal even as a child that he frequently bested old men and recent college graduates in argument. On the one side he was studious and quiet, being a member of a reputable microscopic society at the age of 8; on the other, he was headstrong, very powerful, fond of athletic sports, particularly those of a hazardous nature. To quote his own words, "as a boy I was introspective, but later when I became a cow-puncher this gradually subsided." Being possessed of an unusual amount of personal magnetism he attracted to himself many friends. While always egotistical and masterful he was sensitive almost to a fault, so scrupulous that a prevarication on the part of any one whom he met would annoy him, and, though quick-tempered, he quickly subsided from his outbursts. In spite of the fact that he had been appointed an instructor in chemistry in a good preparatory school at 15, and had every prospect for a brilliant university career, he preferred the untrammelled life of the Western plains to the convention of a college course. For a number of years he worked as a ranchman, cowboy and shipping clerk, and later became an expert accountant, brewery manager, farmer, caricaturist, artist, editor, free-lance and novelist. A friend describes him as "a man who looked deeply into a great many things, studied them carefully and worked them out well up to a certain point, only to drop them." When at one time he became absorbed in gas and electric motors, after much perseverance he designed a fairly good example, only to tire of his plan before perfecting it and to transfer his attention to practicing on the violin. He mastered the theory of sound with the idea of developing a plan for the improvement of the violin, but suddenly abandoned his intentions without apparent reason. Later, when he achieved success as a writer, he permitted his whims, outbursts, disregard for conventions and distorted ideals to multiply without any attempt at restraint, so that living with him became almost intolerable. His case is diagnosed as a psychasthenic state with rudimentary ideas of persecution on the part of his family; but withal he remains a man of charming personality, keen in observation, adroit in expression, a delightful companion; and when the feeling of "emptiness in the head" disappears, as it does transiently, he draws and paints with talent, writes clever verse, and during one brief period of activity his fertile mind evolved eight ideas for patents, some of which received sanction from high scientific authorities.

QUANTITATIVE INFERIORITY

Inasmuch as careful tests for the gradation of the mentally defective have been arranged by Binet, and adapted to American standards through the investigations of Dr. Goddard,[3] it is now possible to draw the line quite sharply between the high-grade imbecile and the constitutionally quantitatively inferior. These latter individuals, so often first recognized by the schoolteacher and school physician, are most prominently deficient in critical judgment, imagination and ability to grasp abstract ideas — ethical, religious and moral; but their psychic equilibrium is on the whole firmer than that of the qualitatively inferior. The under-development of these faculties, so innately intellectual, leads to a defective sense of proportion between coarser and finer feelings, to the faulty interpretation of ordinary occurrences through uncritical grasp of their significance, to inability to distinguish between right and wrong, and, fortunately, also to susceptibility to suggestion from their mental superiors. For this very reason, such individuals may become subservient to the commands of some gangster in the large cities so that they eventually commit some breach of the law, or, on the other hand, if they are properly influenced by some pedagogue with psychiatric experience, may be induced through affection and devotion to apply themselves to a simple routine. It is astonishing how admirably these persons who are so sullen, malicious and exasperatingly obstinate at home, conduct themselves under the general regulations of institutional life, where every movement is not criticized, where their individuality is respected and their activities directed.

This class, it should be emphasized, does not include any persons who, though of low educational or occupational status, or who, though handicapped by such defects as deafness or blindness, have utilized their opportunities to good advantage; nor does it exclude the increasing number of youths of the rich, who, living in luxury and sustained as social parasites, have been prevented from descent to the low strata unavoidably reached by the quantitative inferior unless he is artificially supported.

This type of personality and the psychosis to which it is prone is exemplified in a young Italian who has

3. Goddard, H. H.: The Binet and Simon Tests of Intellectual Capacity, Training School, New Jersey, December, 1908.

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just been discharged from the hospital after his fifth attack. Beginning life inauspiciously with the handicap of an ancestry which included insanity in his maternal grandmother, mother and a maternal aunt, he developed feebly in physique and mind. At school he failed of promotion so frequently that he remained in classes with much younger boys and when he was finally given a trial at work of a simple kind, he proved utterly inefficient.

Even at the age of 15 he showed psychotic symptoms in the form of an excitement which, however, was not sufficiently severe to demand commitment; at 16 he suffered from an hallucinatory episode of sudden onset, during which he appeared dull and stupid and expressed vague paranoid ideas. At 17 he entered Manhattan State Hospital because of an upset during which he began to laugh and cry and dance, talked in a rambling fashion, ate only after urging, gave fragmentary replies, probably hallucinated, and appeared entirely unconcerned about his predicament. After a year's residence in the hospital he had recovered sufficiently to secure a lowly occupation, only to lose control of himself again when he was discharged by his employer a year later. At this time he imagined that people were persecuting him, then became mute and tearful, and later showed mental flightiness and unrest. Although he remained in the hospital for two years on account of frequent outbursts of temper, on discharge he managed to retain a position as elevator boy for over four months, when, realizing himself on the verge of an excitement, he voluntarily, in January, 1911, applied to the hospital for treatment. One month's rest sufficed to restore him to his own low normal level.

THE MIXED FORM

From the above distinction it is to be expected that a number of cases would present features of both groups — a condition almost inevitable when one reflects that the gradation cannot be precise, and that there is nothing to preclude an individual being born with defect in both the intellectual and emotional spheres. As a rule the shortcomings of the persons classified in this mixed form approach those of the quantitative inferior.

The psychoses of the constitutional inferiors all present anomalous features, but the following summary indicates the predominating types of psychoses, or at least the most prominent symptoms which led to commitment. While certain of the patients showed no well-defined mental disorder at the time they were committed, the families, after enduring innumerable outbursts of peevishness or violence, or years of idleness or blundering on the part of the patients, finally felt compelled to seek relief from their domestic difficulties.

CONSTITUTIONAL INFERIORITY

Qualitative Type:	
No cause for commitment other than personality or a very mild outburst	4
Excitements	7
Depressions	1
Hysterical type	1
Neurasthenic type (usually depression)	4
Mixed Type:	
Alcohol an important factor	2
Head trauma a factor	1
Vague causes	3
Quantitative Type:	
No cause for commitment other than personality or a very mild outburst	2
Excitements	7
Epilepsy a factor	2
Dementia præcox (subsequent course)	1

While it is noticeable that excitements or depressions constitute a large percentage of the upsets in these individuals, the excitements lacked most of the cardinal features of manic attacks, namely, flight of ideas, marked psychomotor activity or distractibility, euphoria or over-productivity, but in the quantitative class, more often consisted of explosions of sullen petulance or brute violence with complete loss of self-control; and in the qualitatives, of righteous, vehement outbursts of indignation which others failed to appreciate. So, too, the depressions were marked by resistiveness, irritability and general dissatisfaction rather than distinct psychoses with mental retardation, self-accusation and dejection.

When the excitements are accompanied by hallucinations (a condition by no means rare in inferiors and made the subject of an extensive study among criminals by Birnbaum[4]) one of the most perplexing problems in psychiatry confronts the physician, namely, the differentiation from dementia præcox.[5] Inasmuch as the patient is accessible only to a limited examination at such times, a tentative diagnosis can be based only on the anamnesis and subjective symptoms, but it will almost invariably prove of value that even in the filthiest patients, with catatonia, stupor and indifference, a definitely acute onset without premonitory symptoms offers a more favorable prognosis. In many cases of this type which began abruptly, the patients are at present self-supporting after months or even years of mutism, apathy and catatonia, during which the unremitting tube-feeding and incessant care seemed to be a hopeless expenditure of time and labor.

Paranoid ideas of the quantitative inferiors are usually puerile in conception, flimsy in construction, dependent on environment and amenable to correction when the causative factor can be removed, but apt to recur when the patient drifts back to his old haunts. This does not imply that such paranoid ideas may not prove a menace to those against whom they are directed, for the quantitative inferior is not restrained by pity for his victim or by contemplation of consequences to himself, so that when his ire is aroused he is apt to act immediately by employing some simple direct means of revenge — usually a personal assault.

In striking contradistinction to this are the paranoid complexes of the qualitative inferiors, whose impressionable natures cause them to notice remarks and occurrences which would leave no imprint on blunter individuals and may arouse them to unjustifiable hatred or unreasoning love which they attempt neither to conceal nor to check. These paranoid conditions are usually founded on actualities and sustained to a limited degree by reason, but are embellished by sensibility and unfettered by impulse. As a matter of fact, the case of one of the patients who has been included in this study, a negro elevator boy, of unusual intelligence for his station, who at 20 years was admitted to the hospital after an episode of excitement during which he threatened his wife, and who shortly after his discharge was committed to the Matteawan Hospital for the Criminal Insane for a homicidal attack on his father, has been published[6] as a type of the paranoid complex.

Into this group have also fallen a goodly number of immigrants whom I have omitted in classification because their brief stay and inability to cooperate inter-

4. Birnbaum, Karl: Psychosen mit Wahnbildung und Wahnhafte Einbildungen bei Degenerativen, Carl Marhold, Halle, 1908.
5. North, C. H.: Insanity Among Adolescent Criminals, Am. Jour. Insanity, April, 1911, p. 677.
6. Gregory, M. S.: Present-Day Limitations of Our Conceptions of Paranoia, New York Med. Jour., June 13, 1908, p. 1140.

fered with definite conclusions. They are usually of the illiterate peasant class from hamlets in Poland, Russia or Austria, who, when left isolated in a strange land where ordinary affairs presented a bewildering complexity, and when unable to comprehend or make themselves understood, became suspicious or turbulent and were finally conducted to some reception hospital in a panic-stricken state. Nearly all of this class soon pass from view through the deportation laws and while many were quieted after assurances from physicians, others showed symptoms of incipient dementia præcox.

When such predominating factors as alcoholism and epilepsy exist in the cases, a doubt might be raised as to the justification of separating them from the classical alcoholic and epileptic disorders. Such matters of classification will necessarily always be open to contention and are really dependent on the features which are to be emphasized. For example, the case of one of my patients who has been admitted to the hospital on three occasions within two years has been diagnosed by three different observers as dementia præcox, allied to dementia præcox and constitutional inferiority with an episode of irritability. The final grouping of the case must depend on an exhaustive study of the patient's personality. On the other hand, a maniacal excitement, an epileptic confusion, a depression or an alcoholic hallucinosis so distinctly classical in symptomatology may occur in a person of unquestionable inferiority in one sense or the other, that the nature of the disorder must be utilized as a criterion for prognosis.

PROGNOSIS AND TREATMENT

Obviously there can be no recovery in constitutional inferiority, but constitutional inferiors usually recover from the psychotic episodes which have been described without any apparent detriment to their mentality. It is, however, by no means uncommon for a typical dementia præcox to develop into the type of person here described as a quantitative inferior. From the limited number of cases which it seemed valid to consider, the length of time during which institutional care appeared advisable was, as might have been expected from their superior adjustability, less in the qualitative type, averaging three and one-half months in twenty-one cases. Among the quantitatives the average detention in twelve cases exceeded six and one-half months.

It has been pointed out that many quantitative inferiors encounter little difficulty in a primitive environment, so that the advice is frequently offered that they should be sent to a farm. Such a course, which is reminiscent in its conception and in its fallacy of the counsel sometimes given to patients with tuberculosis that they should seek a high altitude, is usually futile. Just as the consumptive needs the aid and judgment of a skilled and sympathetic physician to direct and encourage him, so the inferior requires the assistance of some one who understands his difficulties and struggles and is willing to condone his failures and encourage his efforts. Without this, country life in itself has little to offer.

A large proportion of the qualitative inferiors whose recovery is, I think, actually retarded by the depressing surroundings of an asylum and association with the insane, could be treated in a hospital for neurasthenics and minor mental disorders, which from time to time is advocated as an absolute necessity, and which, it seems, must eventually be established in every progressive state.

I wish to thank Dr. Mabon, superintendent of the Manhattan State Hospital, for the privilege of publishing this paper.

249 West Seventy-Fourth Street.

A SUPRAPUBIC DRAINAGE-TUBE

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In senile hypertrophy of the prostate we often encounter patients with almost complete obstruction of the prostatic urethra, especially where the middle lobe has projected upward like a fibroma and has been referred to as a ball valve. In these cases constant catheterization is required and in time this operation becomes quite difficult and painful. Besides their refusal to be operated on, these patients are often very old, feeble and wasted, so that we do not care to expose them to the risk of a general anesthetic, or to the shock that follows the removal of the prostate. It was for just such cases that the tube and plate described below was made.

Many changes were necessary before it proved practical and satisfactory. The last model worked very well and was quite comfortable to the patient.

A sheet of 1/32 inch brass, 2 by 5 inches, is cut into an oval; through the center of this is run a 3/8 inch tube, 3 inches in length; the end that is inserted into the bladder is 2 inches long and the outer end 1 inch. This tube is perfectly straight. It was found that a curved tube was hard to insert and gave considerable discomfort. The oval plate is slightly bent to fit the gently rounding contour of the abdominal wall. The

A suprapubic drainage-tube.

whole instrument is now silver-plated; this was found necessary on account of the corroding action of the urine.

The suprapubic cystotomy necessary for the insertion of this tube can easily be done under local anesthesia. The patient's bladder is allowed to become well distended so that it becomes quite distinct above the pubes. The lower abdomen is prepared for operation and the median line anesthetized by urea-hydrochlorate infiltration.

The skin and fascias are now divided, the fat retracted and the bulging bladder exposed. The latter is secured with a suture on either side of the median line to anchor it and then incised. The bladder can now be explored with the finger if a cystoscopic examination has not been possible, for in many cases it contains a small calculus.

The tube is now inserted and held to the patient's body by means of tape or elastic passed around the back and through the button-hole slits in the plate. A rubber tube now connects the outer end of the tube to a bag, bottle or other receptacle.

This plate and tube in no way can be compared to a prostatectomy in its results or its satisfaction, but we all occasionally see a case in which we have the condition described above and for which something must be done at once; it has proved satisfactory to me.

THE LAKE FOREST HOSPITAL FOR CONTAGIOUS DISEASES

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LAKE FOREST, ILL.

The treatment of contagious diseases in private homes is very unsatisfactory. Every community should provide a hospital for such cases. What are the requirements of an ideal isolation hospital?

The location ought to be secluded, and the grounds spacious, allowing convalescents out-door exercise. The building should be planned for the purpose, and not remodeled. It should have, preferably, an east frontage, securing sunshine morning and afternoon. The building should be one story in height and fire-proof. It should be adapted for isolating not only the two sexes, but also for separating several different diseases simultaneously, and keeping them so. The physicians should have rooms for exchanging clothes prior to visits, and facilities for bathing afterward. Rooms must be provided for office, laboratory, dispensary and supplies. Groups of wards, or private rooms, in units, viz., a ward with six beds, a diet kitchen, with gas range and sink, a bathroom, preferably with shower baths and movable iron tubs, and, if possible, a small nurses' private room should be included in the plans. These units may be multiplied to meet the demand. The basement should contain two disinfecting rooms, the "dirty" and the "clean" rooms. In the partition dividing them should be placed the steam boiler for disinfecting purposes. All goods to be treated are brought, in suitable sealed bags, to the "dirty" room, and after disinfecting, removed from the boiler into the "clean" room, or the "dirty" room alone may be used for the formaldehyd process. A laundry and a store-room should also be provided in the basement. The floors in the wards should be of cement with no angles or corners to collect dust, and there should be hose connections in each room for cleansing.

The caretaker should occupy a separate cottage to the rear of the hospital. This should contain not only a living-room, chambers and bath, but also a good-sized kitchen where the meals for the entire hospital may be prepared and carried to the wards on simple wooden plates, which are never returned, but burned. Each ward should have its own dishes and outfit. The cottage should also contain in its basement the steam heating plant for the entire hospital with arrangements for heating any ward separately.

The caretaker need not then be quarantined, as he does not have to enter the main building when it is

Fig. 1.—Front elevation of the Lake Forest Isolation Hospital.

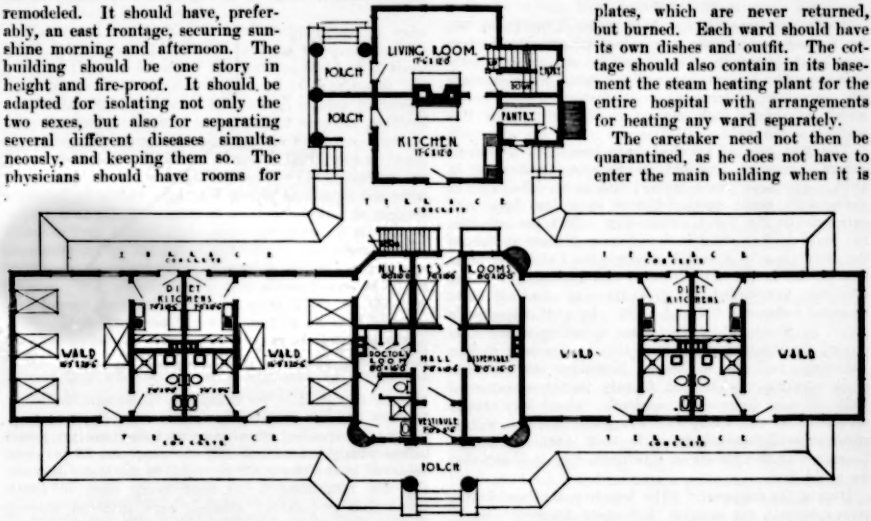

Fig. 2.—Floor plan of the Lake Forest Isolation Hospital. The caretaker's residence in the rear contains also two bedrooms, a bath and a storage-room above.

occupied by patients. The entire hospital should be surrounded by a cement terrace ten feet wide. The wards are entered from the terrace on the outside.

Suppose the hospital is in active use. The physician enters the main hall and the physician's room, puts on his duck suit and rubbers, passes out on the terrace and enters the ward or wards he wishes to visit. He returns by terrace to the physician's room, has his shower bath, dons his former clothes, and passes out. The patient is brought in the ambulance, which backs up to the terrace door of the desired ward.

The grounds about the hospital should be attractively laid out, and planted with shrubs. The terms "con-

tagious" or "pest house" should be replaced by more euphonious terms.

These are the ideals that have inspired the trustees and architect, Mr. Charles S. Frost, in planning an isolation hospital for Lake Forest, as shown in the accompanying plans. It will be noted that the end wards in each wing have no connecting nurses' retiring rooms. This arrangement was made in order to save space. These wards are intended for female patients and the nurse in each will occupy one of the beds in the ward. The terraces are not covered by porches in order that as much sunshine as possible may reach the wards. The grounds cover three acres. The exterior of the building will be of rough plaster on metal lath. The estimated cost, including furniture, is about $20,000. This is the only hospital on the North Shore for the treatment of contagious diseases exclusively. Lake Forest also has a hospital, Alice Home, for emergency cases.

ACUTE POLIOMYELITIS IN CALIFORNIA

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Acute poliomyelitis has been existent in California for a good many years, appearing sporadically, and in occasional epidemics. The disease has not until recently been considered contagious and the public health reports are, therefore, extremely unsatisfactory sources from which to obtain data concerning the history of this malady in the state.

The first case of which I have been able to get an accurate account occurred in Eureka, California, in 1875. The case was a typical one, in a child, aged 2 years, with acute onset followed in a few days with paralysis in the lower extremities. This patient tells me that another child had the same disease at "about the same time." A search through the California journals on file in the state library, and through the *Index Medicus*, has failed to give me any further cases recorded between 1875 and 1896. In 1897 appeared a report by Sherman[1] of eight cases occurring in the state during the summer of 1896; of these, seven were in San Francisco, and one in Napa. Newmark[2] reports four cases occurring in Merced County in the summer of 1898. Woods[3] describes an epidemic, "about fifty cases," occurring in and about San Francisco in 1901, with a recurrence of "several cases" in 1902. Since 1902, no literature of the disease in California has appeared that we could find.

During the summer of 1910, however, the most extensive epidemic yet seen in this state presented itself. Under the auspices of the state board of health I had an opportunity to obtain all the available records and to see a considerable number of these cases. The San Francisco Medical Society appointed a commission to investigate the epidemic as it prevailed in that city. A copy of this excellent report has been sent to the board by Dr. E. C. Fleischner,[4] chairman of the committee, and has been incorporated into the data of the epidemic of 1910 in the state. On account of the fact that in the beginning the disease was not a reportable one to the board, a good many cases are doubtless unrecorded. It has been some time since we have had many cases of this disease, and a diagnosis may have been occasionally overlooked, especially in abortive or rapidly fatal cases. It is certain, therefore, that our reports are incomplete and the deductions drawn from them must, of course, be more or less faulty. The epidemic of 1910 did not differ in clinical features from the characteristics of the ordinary type of the disease. We were able to collect a complete record of 125 cases; 120 in 1910, and five before October, 1911. Of these cases, 75 per cent. occurred from May to September, 1910. The number of males attacked was practically double that of the females; 63 to 37 per cent. Seventy-three per cent. of the cases were under 8 years. The onset in 88 per cent. was given as sudden, and in 12 per cent. slow. The type of onset for the sake of classification was divided into:

1. The classical, or gastro-intestinal type, in which gastro-enteric disturbances, with fever, predominate. This group included about 67 per cent. of all cases.

2. The meningitic type, in which symptoms of meningeal irritation were most prominent, such as the retraction of the neck, etc. This group comprised about 25 per cent. of the cases.

3. The abortive, which practically does not appear in this investigation as it was thought impossible, in the absence of facilities for doing any serodiagnostic work, to draw definite conclusions from so indefinite a symptom-complex. No cases were included in the report unless paralysis occurred. Of the paralysis, 23 per cent. occurred in the upper, 73 per cent. in the lower extremities, the remaining 4 per cent. being cases in which trunk and respiratory muscles were involved causing death. There are seven deaths recorded, making a mortality rate of 6 per cent. in the epidemic. It is very probable that this death-rate is too low. Eighty-two per cent. of the cases began with fever; 54 per cent. with gastro-intestinal disturbance; 46 per cent. without marked gastro-intestinal symptoms.

Map of California showing geographical distribution of acute poliomyelitis from January, 1910, to October, 1911. Dots indicate localities from which cases of the disease were reported.

Since the work of Flexner,[5] who has shown that poliomyelitis is a transmissible disease, we have been particularly anxious to trace, if possible, the mode of transmission in order to work out some practical sanitary method for the limitation of the infection. In the field, however, it has been unbelievably difficult to demonstrate direct transmission. In the 125 cases I was able to elicit a history of exposure in eleven only, or 9 per cent.; in

1. Sherman, H. M.: Occid. Med. Times, August, 1897, p. 445.
2. Newmark, Leo: Med. News, 1899, lxxiv, 101.
3. Woods, A. M.: Occid. Med. Times, March, 1903, p. 77.
4. Fleischner, E. C.: Cal. State Jour. Med., September, 1911.
5. Flexner, Simon: THE JOURNAL A. M. A., Sept. 24, 1910, p. 1103.

the remaining 91 per cent., no reasonable history of contact with other cases could be obtained. In the report which was sent out from the board of health office to the practitioners in the state, the question was asked concerning the number of persons exposed to each case. In the fifty-eight reports which came back complete, 113 adults and 113 children had been directly and repeatedly exposed during the acute stages of the illness. There were no secondary cases in adults, and but five demonstrable secondary cases in children. This morbidity percentage (4.5) is quite low when compared with that of the other diseases of children.

Early in the investigation of this epidemic we obtained indefinite reports and rumors of acute paralysis of the domestic animals in the neighborhood and at about the same time that acute poliomyelitis appeared. In Stockton, a colt was said to have been paralyzed; in Sacramento, chickens; in Davis, a kitten; and in Petaluma, a dog. The board has never been able to obtain possession of any of these animals for pathologic investigation. One horse which was attacked with some sudden malady, associated with a weakness in the fore-quarters, was autopsied and that portion of the cord supplying the front legs sectioned. No areas of round-cell infiltration or hemorrhage were found.

The towns in which poliomyelitis appeared, as indicated by the health officers' reports, were marked in order of time on a map of the state to find out if there were any definite order in the spread of the disease. It was found that the disease had existed in San Francisco several months before it was reported in other parts of the state. The first extension was to Stockton, June 2, 1910; the next to Berkeley, June 15, 1910; and so forth, without definite geographical order. The disease has appeared at widely separated points at almost the same time. This capriciousness of extension seems to suggest either a very considerable incompleteness of records, a transmission by means of carriers to considerable distances, or an existence of the virus under natural conditions. The accompanying map shows towns at which the disease occurred from January, 1910, to October, 1911. It is interesting to note that in the cold weather the disease invaded the southern part of the state which had previously been exempt from infection. It is suggestive that all the towns, except one, in which the disease has appeared are on railroad lines.

Plugging the Frontal Sinus After Its Evacuation for Sinusitis.—Torrini has applied to frontal sinusitis the principle of plugging the cavity left after evacuation and removal of the front wall, with an antiseptic and non-absorbent substance which can be introduced in a semifluid state and hardens after its introduction, like Mosetig's iodoform filling for cavities in the long bones. Torrini, writing in the *Revue Hebd. de Laryngologie*, 1911, xxxii, 689, reports experiments with the method on four lambs, with encouraging results. It permits radical treatment while preventing postoperative deformity and obliterating the surgical cavity. He made an incision through the eyebrow and turned back a flap including the periosteum to which he left adherent some thin flakes of bone. The entire anterior wall of the frontal sinus was then removed, permitting thorough treatment. He then filled the cavity with Beck's bismuth paste; not a trace of the operation could be detected on the animals a year later. Even after removal of the skin down to the periosteum, there was nothing to locate the site of the sinus in question; the anterior wall had regenerated from the flakes of bone left on the periosteum. The paste had not been absorbed, but the cavity seemed to have grown smaller. The filling in the cavity acts as a barrier against infection from the sinus from the nose.

THE DISASTROUS RESULTS OF DELAYED DIAGNOSIS IN PULMONARY TUBERCULOSIS

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CHICAGO

Nowadays when so much is being done against consumption, it would seem unnecessary either to call attention to the importance of early diagnosis, or to offer further data on the difficulties encountered in the diagnosis of this disease. Yet many cases develop and pass into the moderately advanced stage without being recognized.

My attention has been directed recently to the large percentage of error, resulting in late diagnoses, in a series of cases of tuberculosis which I have had the opportunity to study. The series comprises forty-five cases, all of which had been under the care of more than one physician before coming to me. At the hands of the first physician in the respective cases, twenty-six were not recognized, or were recognized only when the diagnosis was obvious to the casual observer.

The initial diagnoses were as follows: "Lung affected" non-tuberculous, four; non-tuberculous or no diagnosis, four; "catarrh," three; "stomach disease," three; colds, two; bronchitis, three; menopause, one; rheumatism, one; pleurisy, one; influenza, one; chronic disease, one; diabetes, one; long uvula, one; a total of twenty-six cases.

The delay in these twenty-six cases before the correct diagnosis was made, was as follows: In two cases, two weeks; in four cases, one month; in one case, five weeks; in three cases, two months; in three cases, three months; in two cases, six months; in two cases, nine months; in two cases, one year; in one case, two years; while two patients stated that they were not informed of the true nature of their disease for six years, although they had had it for that period, these being chronic cases, supposed to be "bronchitis."

At the time of making this report the condition of these patients might be classed as follows: Incipient, three; average delay before diagnosis was made, three weeks; moderately advanced, five, average delay, eight months; far advanced, thirteen, average delay, five months; dead, two, average delay, eight months; cured or arrested, none. Recovery and delay are not compatible in tuberculosis.

The data here given suggested grounds for further investigation regarding this error and delay. Where there has been found so large a percentage of error, some good basic reason should exist. It was decided to take a larger number of cases and tabulate the first symptoms of tuberculosis noted according to the patient's history.

Therefore, a first series of 150 case records of tuberculosis in the Chicago Fresh-Air Hospital was analyzed. These records concern patients in all stages of tuberculosis, except two, who had, respectively, valvular heart disease and sarcoma of the lung. The remaining 148 patients gave fifteen different symptoms as the primary cause of complaint. Some of these symptoms, such as cough, chest pain, night sweats, hemorrhage, loss of weight, might readily direct the attention of the examiner toward the lungs. This group numbers eighty-eight, the remaining sixty cases being divided as follows:

Stomach disorder	5	Pneumonia	3
"Colds"	24	Influenza	4
Weakness or breakdown	21	Pleurisy	3

Combined with the above causes, were sore throat in three; diarrhea, chill, spitting, one each.

I will concede that all patients applying for admittance into a hospital for consumption will be certain to be examined for this disease, and that here a low incidence of error is to be expected.

A second series of 350 case records was examined, the patients being those of the Policlinic Dispensary of the Municipal Sanatorium of Chicago. Of these, 214 cases were diagnosed as tuberculous; 136 as non-tuberculous.

In answer to the question, "What was the first symptom of disease noticed?" there were nineteen different answers given. There were in this series 100 examinations of persons who had been exposed to tuberculosis, and had been, in consequence, brought in by visiting nurses. Of these forty only were found to be tuberculous.

Again, taking symptoms which might be held to point to lung disease we have the following:

Symptom	No. of Cases	Tuberculous	Non-Tuberculous
Cough	130	88	42
Chest pain	26	14	12
Hemorrhage	8	7	1
Night sweat	5	3	2
Expectoration	7	4	3
Loss of weight	15	12	3
	191	128	63

Of these 191 cases presenting symptoms which, as above stated, might suggest tuberculosis, over one-third failed of positive diagnosis.

Eliminating the 100 cases exposed to tuberculosis, as above noted, there remain fifty-nine cases for examination.

These are distributed as follows:

Symptom	No. of Cases	Tuberculous	Non-Tuberculous
"Throat disease"	6	4	2
"Stomach disease"	5	2	3
Swollen glands	12	8	4
Influenza	1	0	1
Sore eyes	3	0	3
Whooping-cough	1	0	1
Chills	13	9	4
Hoarseness	3	2	1
"Catarrh"	9	6	3
Asthma	2	1	1
Bronchitis	2	2	0
Fever	1	1	0
Empyema	1	1	0
	59	36	23

Questioning of many of these patients elicited the following facts: 1. In many instances the family physician accepted the patient's diagnosis, making what seemed to be an obvious deduction from the leading symptom offered by the patient. 2. The physician later misinterpreted perfectly obvious symptoms of thoracic disease because of his first and false diagnosis.

The foregoing tables must show that it is not always possible to make a diagnosis on symptomatology. It is frequently very difficult to make a positive diagnosis of tuberculosis of the lungs, even when applying the best known physical and laboratory methods, and the neglect to use all available methods in diagnosis constitutes the difference between the thorough and the superficial physician.

That it must be impossible to base a true diagnosis on any symptom is definitely shown by the fact that 33 per cent. of coughs were not of tuberculous origin. The same is true of the symptom "chest pain," for 46 per cent. with this symptom were non-tuberculous.

Now all these errors mean delay, which I have already emphasized, and delay spells death to the consumptive.

The foregoing is a plea for thorough examination with the chest bared to the waist, or the trunk to the hips, instead of auscultating the chest through the shirt front, or even through the outer garments.

In addition, laboratory methods of examination should be used to confirm, not to make, a diagnosis, unless it is impossible to make one otherwise. Tuberculin, the radiograph, blood examinations, all are of value, but are adjuvant only. They should not be used to the exclusion of inspection, palpation, percussion and auscultation. These things we have with us, these we have learned to use, and these we should continue to apply as long as we are possessed of our perceptive senses.

RECAPITULATION

1. No certain diagnosis of pulmonary tuberculosis can rest on symptomatology.

2. Error is bound to result in the absence of thorough physical examination.

3. Error means delay, and delay means disaster to the patient.

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PYLORIC OBSTRUCTION IN INFANTS WITH MUSCULAR HYPERTROPHY AT THE PYLORUS *

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Reports of cases called congenital pyloric stenosis are so frequent in recent medical literature that an apology seems due from any one who would once more bring this subject forward.

Such apology would seem especially necessary when one considers the exhaustive papers of Coutley, Weil and Pehu, Koplik, Morse, Ibrahim and a score of other writers. Yet in spite of the brilliant studies of ten years past, studies based on the consideration of many cases, we to-day, in the presence of one suffering from this malady, are victims of divided counsels. Men of vast experience say: Operate at once or fail in your duty. Men of equally great experience hold operation to be in some degree a lesser form of malpractice. Shall we follow Hutchinson, who finds that nineteen-twentieths of his twenty patients recover if treated medically, or Burghard, Stiles, Scudder and Stillman, who believe that for many of these infants, operation offers the only relief? Perhaps, in the face of such uncertainty, we may be excused for asking once more for consideration of this subject.

We have cared for and studied fourteen such patients and have seen a number of others by the courtesy of colleagues, without opportunity for adequate study. We have also made a very exhaustive scrutiny of the literature.

Like all others interested in the matter, we have pondered the different proposed classifications and believe that Nichol offers the most helpful suggestion.

* Read in the Section on Diseases of Children of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

He divides his cases in which operation is imperative (major spasm, in his nomenclature) from those in which expectant treatment is indicated (minor spasm).

We believe Koplik's classification, based entirely on consideration of supposed etiology, to be less useful in practice, especially as in it is included the condition of pure spasm without hypertrophy, which we take to be a very distinct clinical entity well proved to arise from hyperchlorhydria, and we have excluded this not infrequent type from consideration here. The question we have to answer is in which of the cases the patients will endure temporizing and which must at once undergo operation. Our own view is that in a large proportion of the cases, obstruction is not absolutely persistent and that in such, dietetic and expectant measures suffice, and also that a few patients who do suffer from persistent positive obstruction, if brought promptly to operation, have a very fair chance to recover. Moreover, operation, where successful, offers a complete and almost immediate amelioration of the distressing symptoms, while the abatement of vomiting, wasting and discomfort under medical measures is delayed for weeks, often for months.

Such a division, however, is not always a certain guide; for our fatal cases include two in which the symptoms pointed to an intermittent obstruction; while among our recoveries without operation are at least two instances in which all the clinical evidence seemed to indicate complete persistent obstruction. Moreover, a scrutiny of nearly 300 cases from the literature shows this to be an average experience.

To one of us it has seemed that the type of vomiting had some prognostic value. When the vomiting comes on during, or immediately after, every meal and is of the regurgitant type altogether or in part, that is to say, in cases in which cumulative propulsile vomiting is inconstant, one should feel more hopeful for the patient's ultimate recovery without operation; and it would seem that the less dominant the propulsile type of ejection, the more rapid the cessation of symptoms.

A careful search of other observers' reports fails to confirm this view. In very few of the hundreds of reports examined, however, was the type of vomiting reported in detail. We believe a further study may prove of value and we suggest that when such cases are encountered daily notes should be made of the number of ejections, the time of each, the amount ejected, its relation to the ingestion of food, the appearance and the odor of the vomitus; possibly a special chart would prove of value in such investigation. It seems probable that in nearly all the cases the vomiting at first is of the regurgitant type and that, as suggested by Marsh, cumulative propulsile vomiting develops coincident with the beginning of stomach dilatation, so it seems reasonable to suppose that the less severe the lesion the longer the time that will elapse before the appearance of stomach dilatation and propulsile vomiting. A search of the literature reveals that a large proportion of the cases of recovery under expectant measures were characterized by the regurgitant type of vomiting at some time in the course of the disease, usually at a time not remote from the beginning of treatment. This, however, is far from universal, as in the majority of cases of patients reported cured without operation the vomiting is stated to have been propulsile and cumulative, occurring three to six times in twenty-four hours. However, but few of these gave in detail the character of the vomiting from the onset of the disease. Had the cases been studied with this point in mind, we are confident that much valuable information would have been derived, for no individual's experience is likely to be wide enough to form the basis of a final conclusion. One point we wish to insist on is that occasional patency of the pylorus, as shown by the appearance now and then of a milk stool, with an increase in the amount of urine and a temporary gain in weight, cannot be relied on as always of good prognostic significance, as witness Cases 8 to 10 of our series, and many reports of other observers. It seems that it may be on the violence of the closure of the pylorus that prognosis depends and it is reasonable to assume that the type of vomiting is to some degree a measure of this violence.

Fritz Talbot has suggested that a good measure of our ability to overcome obstruction at the pylorus may be had by putting small amounts of warm water into the empty stomach. If the water be persistently rejected there is little chance that foods which stimulate pyloric closure will pass into the duodenum. One speaks of violent pyloric closure, for, although we have little but surmise to go on, there are several facts that favor the idea that in these cases we are dealing with a more or less violent spasm of a hypertrophied muscle, a spasm that entirely closes a pyloric way already narrowed by the overgrowth of ring muscle, subcutaneous tissue and mucous membrane. The overgrowth itself seems but rarely to cause complete obstruction, as happened in a case of Morse, which came to post-mortem some months after operation; but this is the only instance of the sort that we could find in the literature. On the other hand, Bloch, Batten and other writers report the pylorus open and the gastro-enterostomy wound closed at autopsies made from six to twelve months after operation. Of course, in considering these cases we must recall to mind that normal growth rapidly widens the pyloric canal while it contributes little to the thickening of its walls. Pfaundler finds 1/10 inch to be the normal thickness of the wall at birth; and this is increased but little by the end of the first year. The lumen, on the other hand, rapidly widens at the end of the fourth week; it is then 3/10 inch wider than at birth and has gained a further 12/100 inch by the time the child is a year old. When the relation of cross-section to radius is remembered and the fact that the tumor is chiefly a simple overgrowth of circular muscle, itself a constituent of the normal pyloric wall, it will be seen that the normal increase in lumen ought, in time, to neutralize the narrowing due to the encroachment of the overgrown structures of the pyloric wall. This inference is supported by clinical evidence, for if these children can be kept alive until the fifth or sixth month they begin a progressive amelioration and are often exceedingly well-developed babies at the fourteenth or sixteenth month of life.

That in some cases, at least, the condition is one of spasm of an abnormal pyloric muscle already overgrown at the time of birth seems to be reasonably certain. In favor of the antenatal origin of the overgrowth, we have cases reported by Ibrahim, by Dent and by Cunningham, in which the tumors were found in fetal cadavers, and a number of cases in which the symptoms came on at birth, and in which a characteristic pylorus was found post mortem or at operation. Cunningham finds that the folds of mucous membrane, supposed to help obliterate the pylorus in these cases, occur normally; that the longitudinal muscle of the pylorus is proportionally hypertrophied and that many of the individual fibers of the hypertrophied muscles are of the giant type, conditions that obviously could not arise from postnatal hypertrophy due to overwork from closing spasm. And

the fact that we have parallel congenital hypertrophies of muscle in the genito-urinary tract and in the intestine (Hirschsprung's disease, for instance); furthermore, that we find the relatively common pylorospasm, due to hyperchlorhydria, occurring in babies in whom one might reasonably expect hypertrophy of the pylorus if it could occur as a result of spasms, and in whom, after weeks or months of such a condition, there is no such increase in the circular muscle, is direct evidence that the condition is not of postnatal origin.

But while the evidence does not permit the assumption that the hypertrophy is the result of spasm, the fact of spasm must be accepted, for it is testified to by so many clinical events, as for instance, the intermittence of symptoms, the temporary amelioration that often follows a change of diet and the occasional passage, even in intractable cases, of a milk stool. The degree of the hypertrophy does not govern the degree of obstruction. Some cases with huge tumors have had less intense symptoms than others with relatively small hypertrophy. The expulsive character of the vomiting, too, can only be reconciled with the idea of violent contraction about the pylorus, and the variable intensity of the peristaltic wave suggests that the obstructing force is not of constant measure. Furthermore, Batten's report of a child spontaneously relieved of symptoms, who died eleven months later from a recurrence, but whose pylorus at postmortem revealed the characteristic hypertrophy, would indicate that spasm played a large part in the production of symptoms in this case at least.

It is easier to find evidence of spasm than to understand the reason for it, and until we do understand the underlying cause our treatment cannot be based on close reasoning and, therefore, must needs be to a degree empirical. We shall gain little guidance in the matter of treatment from acceptance of any of the many theories extant, for at the best they are but examples of sapient surmise. Without a doubt, however, study of the laws that concern opening and closure of the normal pylorus, as we can find them in the research of Pawlow, Starling and Cannon, can be relied on to shed some light on the working of the abnormal pyloric apparatus.

For a time it was assumed that hyperchlorhydria was a factor in these cases, but the work of Miller and Wilcox, of Ibrahim, and the findings in some of our cases, negative this view; in fact, whenever trustworthy examinations have been made, the secretory power of the stomach, except for rennin, has been normal. Miller and Wilcox found rennin secretion markedly increased in all their cases.

In a recent and very valuable contribution, Cowie has shown that foods of high acid concentration, while in the infant's normal stomach, increase the time of pyloric closure because the duodenum needs a longer period in which to effect neutralization and so initiate the opening reflex. Further, he tells us that foods of extreme alkalinity also tend to lengthen the time of pyloric closure because, as Cannon has shown, there must be a certain mild degree of acidity in the stomach before the pyloric opening reflex is initiated, and the higher the alkalinity, the longer it will take to acquire the needed degree of acidity. It is probable that there is an optimum degree of alkalinity of food for these babies and it seems due them that, whenever possible, we should investigate every such case by methods similar to those used by Cowie working on normal stomachs of babies. We must not overlook the fact, however, that from Holt's service have come reports that lime-water used in moderate quantities increases the production of hydrochloric acid, or that many writers have advocated the use of lime-water in quantities sufficient to prevent rennin coagulation in the stomach and so avoid the stimulus to pyloric closure supposed to arise from the presence of curds in the stomach. Scrutiny of the meals given the spontaneously cured patients here reported would indicate that the diet plays little part in either the production or the cure of the condition. The course of these cases is practically identical and yet some were fed whey, some condensed milk in varying dilution, some percentage formulas, and others were breast-fed. It seems irrational to feed vomiting infants food high in fat, yet some writers have reported recoveries while children were being fed mixtures rich in cream.

Two of the three patients here reported as dying without operation were under observation too short a time for any valid inferences to be drawn from their cases. One died of hemorrhage, a condition several times reported by other observers as the cause of a fatal issue. The second patient died in status epilepticus, the convulsions beginning at a time when lessened vomiting and improving stools seemed to indicate that the child was on the mend. The third died suddenly, within twenty-four hours of the appearance of good milk stools which followed amelioration of the vomiting. This child had an enormous hypertrophy of the pyloric apparatus and yet passed good stools. Such deaths are described in a number of communications and are probably due to the profound metabolic disturbance occurring in this condition.

In Cases 11 and 12, in which the patients died after operation, two very young babies were operated on because of alarming rapidity in weight-loss and absolute lack of response to lavage. However, in neither of these cases were these features more marked than in Case 6, in which operation was urged, but was refused, and in which the patient ultimately recovered. This infant, however, had a wet-nurse and was older when it began to develop symptoms.

Patients 13 and 14, recoveries after operation, were the first and second in the experience of one of us, and relief was so instant and positive after operation in both as well as in two other cases, one in Dr. Cheney's practice, one in Dr. Lartigau's (here mentioned by the courtesy of these colleagues), that at that time it seemed that failure to operate in every case would be wrong. Our subsequent experience has shown, however, that in the present state of our knowledge there is little to choose between a course of masterly inactivity and one of masterful intervention. Whether we follow Hutchinson, who decries all operations, or Scudder, who always operates, will depend to a degree on the personal bias of the physician and the problem presented by the individual case.

By far the best operative statistics are those of Burghard, who eschews gastro-enterostomy and practices pyloroplasty, a point we would commend to the consideration of our surgeons. In spite of Heubner, we believe that stomach lavage with hot, dilute (preferably 1 per cent.) soda bicarbonate solution given once or twice daily, is a measure of great value in the treatment of these cases. External heat applied through the medium of an electric-heating-pad or Japanese stove is also of much use. Drip enemas during the time when vomiting is intractable are sometimes, though not always, of use. Condensed milk in moderate dilution is quite as well borne as any other food that we can find for such babies. It is especially of use when combined with mild alkaline laxative.

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In conclusion we feel that, while our experience is too limited to allow positive statements, there is evidence to suggest that those patients who retain the regurgitant type of vomiting do better than those whose vomiting is constantly cumulative and propulsile; and we are impressed with the need for a uniform method of studying and reporting these cases which confront us so often and puzzle us so deeply.

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ABSTRACT OF DISCUSSION

DR. W. W. BUTTERWORTH, New Orleans: An experience of seven cases observed in the last month does not throw much light on the subject. In one case in which I wanted an operation performed the parents refused consent and the child recovered. This condition occurs more frequently in the first-born and in boys. This patient began vomiting the first week in April and grew steadily worse, and finally was having twenty vomiting spells in twenty-four hours and I thought his time had come. What saved his life was giving him a few drops of belladonna. Then the old negro nurse began giving him a few things and the child began gradually to recover. Dr. Matas had occasion to operate on a child for this condition. The first child in that family had died of the trouble so the parents had some experience with the condition. In this case the tumor was not demonstrable but the character of the vomiting was unmistakable. When one feels the hard, fibrous ring there can be no question of the necessity of an operation. But I must confess my inability to say where to draw the line. The best results in my hands have come from the use of stomach-washing, warm bicarbonate solution and the use of antispasmodics. Further than this I have nothing to suggest.

DR. L. PORTER, San Francisco: I did not bring up the question of the clinical picture because there has been so much written on that subject. In common with Dr. Butterworth, I have at times found belladonna useful. Five deaths occurred in these fourteen patients, two under operation. The finding of the tumor was of interest. In many of these cases, in fact, in all of the stomachs I have observed, not only the pylorus but also the stomach itself is hypertrophied, and the stomach overlaps the pylorus, making it very difficult to palpate the tumor. The interesting question comes up as to why, if these cases have an element of spasm, the tumor does not relax under the anesthetic at the time of the operation.

EXPERIENCES WITH THE COLEMAN-SHAFFER DIET IN TYPHOID FEVER*

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INTRODUCTION

The last two decades or more have witnessed the growth and rapid development of the idea that patients suffering from typhoid fever should be liberally fed on a judiciously chosen general diet, rather than maintained, as of old, on scant and meager "fluid" nourishment. The establishment of the fact that this disease is in all probability a bacteriemia or blood infection, accompanied by or accompanying specific intestinal lesions has directed the attention of the therapeutist toward the maintenance of the general condition and state of nutrition of the patient rather than toward the local intestinal condition *per se*. It is about realized that at this moment we are not in possession of a means of directly combating or altering the pathologic course of the infection; the aim has become more than ever before, so to maintain the strength and nutrition of the patient and his several organs as to allow him the optimum conditions for successfully surviving a fever process characterized by its protracted length and its progressive drain on the tissues. American internists have been the originators of this idea of "feeding the fever," and preeminent in carrying it out, with results that are well known and clinically accepted as beneficial to the patient.

Studies in the metabolism of fevers have shown that in all except the very lightest forms of infection there is an acceleration of the metabolic processes, more particularly, however, of the catabolic changes, resulting in a continuous loss to the body of the reserve fat, and soon in a progressive and uninterrupted drain of protein tissue. The loss of nitrogenous equilibrium, as evidenced by a negative nitrogen balance in the excretions, is demonstrable throughout the course of the active disease. This drain of protein (for the main part, muscle) and other tissues is ascribed to three causes, namely, the pyrexia, the customary starvation, and lastly, a toxic factor. Of these three factors, the second (the loss caused by insufficient nutriment in the diet) is the most easily overcome by increasing food values; that due to pyrexia and toxic agencies is more difficult to combat and prevent. Experimental work (Voit) on animals has shown that artificial raising of the body temperature in dogs, not above 39 C., causes no appreciable increase in metabolism; on the other hand, the metabolism of a fasting dog, whose temperature is maintained by external heat at 40 to 41 C., is accelerated about 37 per cent. above the normal. A loss of tissue is also experimentally demonstrable by the injection of toxic agents, whether there be a rise of temperature or not; and among these agents the bacterial toxins are the most potent.

One of the important facts established by the experiments and observations of modern workers is the principle that protein loss can be wholly or in part prevented by increasing the proportion of carbohydrate and fats in the food intake. Von Noorden, Müller, Chittenden, and others have again and again succeeded experimentally in normal subjects in preventing or "protecting" protein withdrawal by liberally increasing the proportion of the other food elements. Thus Chittenden, in his classical studies on the nutrition of man, has occasionally noted, in his experiments on the reduction of the protein ratio in the food, a negative nitrogen balance with consequent loss of body weight; however, maintaining this lowered protein intake but largely increasing the carbohydrate in the food, he has noted the reestablishment of nitrogenous equilibrium and the loss of weight converted into a tangible gain.

It was on the basis of this important principle that Coleman and Shaffer,[1] working on protein metabolism in typhoid fever, have suggested a practical form of diet which shall contain a liberal protein proportion, but with a very greatly increased carbohydrate ratio, as well as a moderate increase in the fat content. They aimed, therefore, to provide a diet which should convert a minus to a plus nitrogen balance, prevent loss of weight during

* The observations on which this article is founded were drawn from cases on the First Medical Service of Mount Sinai Hospital, while the author was house physician of that division. It was with the kind permission of Drs. Brill, Rudisch, Davison and Libman that the diet was introduced and studied. I wish to express my thanks to the attending physicians on this service for their kind consent and for numerous suggestions received throughout the course of the experiments.

1. Coleman and Shaffer: Arch. Int. Med., Dec. 15, 1909, p. 538.

the infection and maintain general nutrition; this to be done by so greatly increasing the carbohydrate and fat proportion of the food as to prevent nitrogen loss. The foods offered were easily digested and assimilated, leaving small residue and causing no undue gastro-intestinal disturbances. Their patients were fed at short intervals throughout the day, and at longer intervals at night; the dietary consisted of liberal quantities of milk with cream or cocoa, cereals, eggs, broths, bread, butter and whisky. In addition they made use of an almost tasteless sugar, capable of administration in large quantities, namely, lactose. This sugar they used in quantities up to 10 to 20 ounces a day. Cream, on account of its high fat content and very high caloric value, was also liberally used. The caloric value of the day's ration as administered by them usually varied between 3,500 and 5,000 units; an occasional patient may have taken 6,000 calories or even more for a short period. With such a highly nutritious forced diet, consisting for the most part of carbohydrate and fat, they reported satisfactory results. The diet was well received and untoward symptoms were not observed. Their studies in protein metabolism, undertaken throughout the course of the infection, show a very marked diminution in the customary nitrogen loss. This latter in many successful cases was completely checked or even converted into a nitrogen gain; the loss of weight was similarly seen to be greatly diminished or to have ceased.

The attempt was made in some of the wards of Mount Sinai Hospital, during the summer of 1910, to utilize the ideas and practical suggestions of Coleman and Shaffer in modifying the diet of the typhoid patients.

THE DIET AND ITS ADMINISTRATION

The patient, on admission to the ward, was frequently found in a condition of neglect, showing evidences of insufficient nursing and ill-judged dieting. A fetid, neglected condition of the mouth and throat was the rule; it was also quite customary to find on the first examination marked abdominal distention. A history of constipation was almost invariable. Because of the disturbed condition of the gastro-intestinal tract it was customary to allow the first twenty-four hours for preliminary care. The teeth and mouth were cleansed, enemata were used to empty the lower bowel and frequently, in cases admitted early in the course of the disease, calomel was given.

Directly thereafter, the patient was placed on what soon came to be known to us (the hospital staff) as the "liberal typhoid diet," a diet borrowed in its essentials from the suggestions of Coleman and Shaffer, and adapted to our practical needs as we found them, and to our particular class of patients.

The following lists are offered as sample diets given to patients throughout the course of illness:

OUTLINE OF AVERAGE TYPHOID DIET

Breakfast, 6 a. m.: Farina 1 portion, with lactose 1 oz. and cream 1 oz. Coffee 6 oz. with cream 1 oz. and lactose ½ oz.

8 a. m.: Hot milk 6 oz. with cream 1 oz. and lactose ½ oz.

10 a. m.: Cocoa 1 cup (8 oz.) with cream 1 oz. and lactose ½ oz. Bread and butter 1 slice.

Dinner, 12 m.: Broth 8 oz., bread and butter (in form of milk toast) 1 slice of bread with milk 4 oz. and cream 1 oz. and lactose ½ oz. Egg (poached) 1. Rice 1 portion, with lactose 1 oz. and cream 1 oz.

2 p. m.: Ice-cream 1 portion; bread and butter 1; milk 6 oz., with cream 1 oz. and lactose ½ oz.

4 p. m.: Orangeade 8 oz., with egg 1, and lactose ½ oz.

Supper, 6 p. m.: One of the wheat breakfast foods 1 portion, with cream 1 oz. and lactose 1 oz.; bread and butter 1; egg 1; malted milk 2 oz. with milk 6 oz., cream 1 oz. and lactose ½ ounce.

8 p. m.: Orangeade 6 oz., with egg albumin 1 and lactose ½ oz.

12 p. m.: Hot milk 6 oz., with cream 1 oz. and lactose ½ oz.

4 a. m.: Lemonade 6 oz., with egg albumin 1 and lactose ½ oz.

TABLE 1.—TOTAL CALORIES PER DAY ON AVERAGE TYPHOID DIET

Food Substance	Amount		Calories
Cereal	3 portions	at 160	480
Lactose	8 oz.	at 125	1,000
Cream	10 oz.	at 70	700
Bread and butter (without crusts)	4 slices	at 87	348
Eggs	3	at 60	180
Egg-albumin	2	at 40	80
Cocoa	1 cup (8 oz.)	at 180	180
Milk	28 oz.	at 20	560
Ice-cream	1 portion	at 90	90
Broth	8 oz.	at 7	56
Malted milk	2 drams	at 120 (per oz.)	30
Total calories			3,704

OUTLINE OF A MORE LIBERAL TYPHOID DIET

Breakfast, 6 a. m.: Farina 1 portion, with lactose 1½ oz. and cream 1½ oz.; bread and butter 2 (without crusts); egg 1; coffee 5 oz., with cream 1½ oz. and lactose 1 oz.

8 a. m.: Hot milk 6 oz., with cream 1½ oz. and lactose ½ oz.

10 a. m.: Malted milk 2 oz., with milk 6 oz., cream 1½ oz. and lactose 1 oz.; bread and butter 2.

Dinner, 12 m.: Broth 8 oz., bread and butter (in form of milk toast) 2, with milk 6 oz., cream 1½ oz. and lactose 1 oz.; eggs (poached) 2; rice 1 portion, with cream 1½ oz. and lactose 1½ oz.

2 p. m.: Ice-cream 1 portion, bread and butter 2, milk 6 oz., with cream 1½ oz.

4 p. m.: Orangeade 6 oz., with egg 1 and lactose ½ oz.

Supper, 6 p. m.: Wheat breakfast-food 1 portion, with cream 1½ oz. and lactose 1½ oz., bread and butter 2, egg (scrambled) 1, cocoa (2 cups) with cream 2 oz. and lactose 1 oz.

8 p. m.: Orange-albumin (white 1 egg) with lactose ½ oz.

12 p. m.: Hot milk 6 oz., with cream 2 oz.

4 a. m.: Orange or lemon-albumin (white 1 egg), with lactose ½ oz.

TABLE 2.—TOTAL CALORIES PER DAY ON LIBERAL TYPHOID DIET

Food Substance	Amount		Calories
Cereal	3 portions	at 160	480
Lactose	10 oz.	at 125	1,250
Cream	16 oz.	at 70	1,120
Bread and butter	12 slices	at 87	1,044
Eggs	5	at 60	300
Egg-albumin	2	at 40	80
Cocoa	2 cups (16 oz.)	at 180	360
Milk	36 oz. (6 cups)	at 120 (per cup)	720
Ice-cream	1 portion	at 90	90
Broth	8 oz.	at 7	56
Malted milk	2 drams	at 120 (per oz.)	30
Total calories			5,530

A reference to these diet lists will demonstrate the following: The patient is fed once in two hours, during the day from 6 a. m. to 8 p. m.; during the night at 12 p. m. and 4 a. m.; three times a day, the usual feeding is increased in quantity and variety so as to resemble a meal. Such a meal would consist of a cereal, always eaten with milk or cream in which a liberal portion of lactose is dissolved, and a cup of milk or coffee to which is similarly added cream and lactose (and saccharose for

taste, as desired). Such a meal is easily extended and much enhanced in its value by the addition of an egg, or of one or two pieces of bread and butter. Or the bread may be taken in the form of milk-toast, or as bread dipped in milk or chewed simply as bread deprived of its crust. The cereal was varied frequently, the newer partially prepared and more palatable cereals being introduced, to the great relish of the patient. The interval feedings were simple, but care was always taken to choose highly nutritious articles of food, and particularly those with high carbohydrate value. Thus, milk, cocoa, coffee, to each of which was invariably added ½ ounce of cream and ½ to 1½ ounces of lactose were given. Also orangeade or lemonade with egg-albumin could be made into drinks carrying considerable caloric value by the addition of lactose and cane sugar.

The following list of caloric equivalents of foods will assist in understanding the values of the different articles used:

TABLE 3.—CALORIC VALUES OF FOODS

		Calories
Chicken	1 oz.	50
Beef-juice broth	1 oz.	7
Beef-soup	1 oz.	7½
Potato	1 oz.	25
Apples	1 oz.	18
Butter	1 oz.	225
Milk-sugar	1 oz.	125
Milk	1 qt.	650
Milk	8 oz.	160
Cream (16-20 per cent.)	1 qt.	2,000
Cream	8 oz.	560
Cream	1 oz.	70
Egg	1	60
Buttermilk	1 qt.	350
Matzoon-Zoolak	1 qt.	600
Egg-nog (with one egg)	8 oz.	220
Cocoa (with milk)	8 oz.	180
Cereal, per portion	..	160
Custard, per portion	..	60
Ice-cream, per plate	..	90
Bread	1 oz.	75
Bread (without crust)	20 gm.	50
Butter	5 gm.	37
(Therefore bread and butter as used)	1 slice	87

TABLE 4.—AMOUNT OF DIFFERENT FOODS REQUIRED TO MAKE 100 CALORIC UNITS (FISHER) *

	Gm.	
Chicken	90	(3.2 oz.)
Beef soup	380	(2 cups)
Potato	86	(One large)
Apple	206	(almost ½ lb.)
Butter	12.5	(One square)
Milk	140	(Small cup)
Cream	49	
Egg	50	(One large egg)
Buttermilk	275	
Matzoon-Zoolak	188	
Cereal	87	(Small portion)
Custard	122	(One cup)
Cocoa	120	(Half cup)
Bread and butter	30	(Slice, large)

* THE JOURNAL A. M. A., April 20, 1907, p. 1320.

One should pause a moment to consider the protein content of the diets as they are administered. Thus, the protein content of the "average diet" (Table 1) shows a total of 76 gm., that of the "more liberal diet" (Table 2), a total of 94 gm. per day. This protein content in the diet is greater than the usual protein proportion in an average healthy man's food, much in excess of the protein minimum as set down by Rubner (60 gm.). Whether the excess of protein food administered is sufficient or not for a febrile patient will be discussed later.

From a perusal of these statements, it will readily be seen that the attempt to institute a diet of high caloric value was sustained in the main part by offering liberally three articles of food, namely lactose, cream, and bread and butter. Lactose had been suggested by Coleman and Shaffer; it is a disaccharid, almost tasteless, with a slightly bitter after-taste when taken raw; it is soluble slowly in cold solutions, readily in warm drinks. One to two ounces may readily be added to 6 ounces of milk, coffee, tea, orangeade, etc. The drink is flavored with cane-sugar; the taste of lactose is then almost completely disguised; every gram of lactose has a value of 4.1 calories. When it is well taken by the patient, there is no difficulty in administering up to 8 or 10 or more ounces a day, giving thus alone 1,000 to 1,200 calories of fuel value. The cream, which contained on analysis 16 to 20 per cent. fat, was usually well taken in amounts up to 10 to 20 ounces per diem. When one remembers that a pint of cream (16 ounces) is equivalent to 1,000 caloric units, the high food value of this article is appreciated.

Bread and butter was introduced into the dietary at first with some hesitation and trepidation; later with a freer hand. The bread, cut in thin slices (the crust removed), and liberally buttered, was found by the patient to be a most acceptable food. When sufficiently conscious, he would chew it with relish or take it sopped in his fluid drink; it was of great service in this manner in stimulating salivary and peptic secretion, assisting and facilitating the care of the mouth and teeth. It was surprising how large an amount was readily taken by the patient in the course of the day without coaxing or forcing, four to twelve or sixteen slices not being considered excessive. As a convenient and delectable form of carbohydrate and fat food, bread and butter served its purpose well. One slice of bread and butter is almost equivalent to an ounce of lactose; twelve slices have a value of over 1,000 caloric units.

Eggs were of great service as a food which could be readily combined with the carbohydrate articles and thus facilitated the ingestion, with relish, of the latter. Thus egg-nog with lactose; poached egg on toast with milk; egg and bread and butter; custards, etc., were given. Three to five eggs a day were not considered excessive and supplied the greatest part of the necessary protein ration.

It was customary to allow daily 8 ounces of bouillon or soup; this was considered expedient, not because of the nutriment in this drink, which is little, but because of its well-known stimulating action on peptic secretion.

ADMINISTRATION

It may be said, briefly and honestly, that this diet is readily taken by the patient, usually with but little coaxing. In the first stage of the illness, when the fever is at its fastigium and the mental state is one of more or less apathy, the patient must be fed every mouthful by the nurse in attendance; but a little urging and coaxing arouse the patient sufficiently to take his meal. During this stage, as will be seen from subjoined tables, we had little difficulty in administering a diet whose caloric value was 3,000 to 4,000 or 4,500 units. When the temperature is highest (104 to 105 F.) diets of 2,000 to 3,000 units are satisfactory; as the temperature declines, the higher values are noted. With the approach of normal (101 to 99 F.) and with the normal temperature of the convalescence, the highest values in the diet are reached; from 3,500 to 5,000 or even 6,000 units are attained, usually with ease.

The logical question that suggests itself at this point is, "How do the patients stand this forced diet?" Here again, we may say that the diet is well borne and, except occasionally, *without* untoward results. The observations cover about thirty cases. In only one instance did

vomiting occur, and in this case after allowing a light diet for a few days, the more liberal diet was reestablished without difficulty. Occasionally there was a complaint of nausea; the nausea was always regarded as a sign of overfeeding and the amounts were diminished or the interval of feeding increased; after a day or two the original diet could again be undertaken.

As regards intestinal symptoms, diarrhea occurred in only one of our series; this followed the administration of the liberal diet and disappeared with a diet of milk only. Three days after the prompt cessation of the diarrhea, the patient was taking 2,500 calories with ease and without abnormally frequent bowel movements. This was the only case in which any intestinal disturbance was associated with the administration of the forced diet; the subsequent easily established tolerance seemed to justify the continuation of the diet as originally offered. One fact was particularly striking to me. On the older dietaries it was quite customary to find a fair proportion of the typhoid patients showing abdominal distention, moderate or to a marked degree. The usual high soap-suds and peppermint enema had been frequently needed, particularly at night. It was therefore all the more surprising and worthy of note that on this diet an evening enema was required in only a few instances; abdominal distention was rare.

RESULTS

Nutrition.—It may well be understood that with such a highly nutritious diet successfully administered throughout the course of the illness, and to all intents and purposes easily assimilated, the state of nutrition remained good. The absence of evident emaciation in the milder cases, the plump appearance and good color of the convalescing patients was conspicuous. In protracted cases, in which a severe febrile period existed with marked toxic symptoms, the general excellent nutrition and firmness of the tissues would remain unimpaired for at least the first three or four weeks. In one case with an extremely severe course, running for almost thirteen weeks, while the emaciation was eventually marked, yet during the earlier weeks the consumption of the reserve subcutaneous fatty tissues was evidently delayed by the liberality of the diet. It was only during the latter half of this period, and with the increasing low delirium, coma vigil, and complete anorexia of the patient that the emaciation and loss of strength occurred. The following case (No. 16) illustrates the fluctuations in the amounts of alimentation administered over a long period of severe toxic depression and fever.

TABLE 5.—AVERAGE DAILY CALORIC VALUE OF FOOD ADMINISTERED IN A PROTRACTED CASE

Week	Calories	Week	Calories
2d	3,900	9th	3,400
3d	4,320	10th	2,830
4th	3,800	11th	3,960
5th	3,150	12th	4,380
6th	3,200	13th	4,550
7th	3,450	14th	5,350
8th	3,300		

During the second to fourth weeks, inclusive, in spite of continuous high pyrexia, the mental condition remained bright and cheerful and 3,800 to 4,200 calories were well received. The fifth to eleventh weeks were days of coma vigil and intense prostration, the patient still amenable, however, to persuasion and passively taking her nourishment in fair quantities; it was during this period that in spite of a diet containing an average of 3,230 calories the most marked loss of flesh took place. With the resolving temperature and improved mental condition an increase of appetite was noted, and without much coaxing the patient took over 4,000 calories per day. The evident emaciation was almost immediately halted and improvement and gain were apparent even before the temperature had reached the normal.

Convalescence.—In view of the facts presented above, namely, the absence, or marked diminution in loss of flesh and general strength during the febrile period, it was usually deemed safe to allow the patient to sit up with support of pillows on the first day that the temperature reached 98.6 F.; within another day or two the patient was allowed out of bed, so that three days after normal temperature was attained one had the satisfaction of finding the patient in a chair at the bedside and with the usual complaint of the convalescing typhoid, that of hunger. The period of hospital convalescence itself was remarkably shortened. The patients usually felt well and strong enough within ten to fourteen days to request their discharge, and frequently it was only with difficulty that male patients could be persuaded to remain two weeks after the temperature had become normal.

A moderate anemia, usually between 60 and 70 per cent. hemoglobin, was the customary finding during convalescence, and this even in those cases having the fullest and most acceptable diet.

Weight.—A study of the weight figures during and after the infection, and the effect of the different diet values on the loss of weight, is interesting and instructive. The patient was weighed within a few hours after admission to the hospital in all instances except those in which the illness was so far advanced or the general condition so precarious as to make the procedure inadvisable. On the first day of normal temperature the patient was reweighed and again weighed at short intervals during convalescence.

A perusal of the tables compiled from sixteen cases studied with weight figures will demonstrate the following facts: During the febrile period in spite of high forced feeding there was practically always a loss of weight. But the reservation should be made immediately that great loss was exceptional; the customary difference during the febrile period was 1 to 5 or 6 pounds; the greater deficiencies were seen in protracted, severe toxic cases of long duration.

TABLE 6.—VARIATIONS IN WEIGHT IN CASES RUNNING FOR DIFFERENT PERIODS

Case		Duration of Febrile Period, Days	Average Temperature, F.	Average Day's Diet, Calories	Difference in Weight, Pounds
1	Y. E.	6	100.1	3,200	— 2
2	404	8	101.4	3,760	— 1½
3	A. F.	9	100.2½	3,550	+ ½
4	J. S.	10	101	2,840	— 5
5	L. H.	10	100.8	4,000	— 1⅝
6	I. K.	11	101.4	4,200	— 5½
7	A. S.	13	99.3	3,500	— 1¼
8	I. B.	13	101	3,940	— 2
9	381	14	101	4,150	+ 4
10	A. T.	14	101.3	3,230	± 0
11	391	17	100	3,630	+ 3
12	G.	20	101.3	3,010	—11½
13	S. K.	21	100.9	4,400	— 5½
14	384	22	101.8	3,800	— 6
15	A. D.	29	102.2	3,650	—13
16	C. F.	89	102	3,590	—30

Thus in the first eleven cases, with a febrile period under observation up to seventeen days, a loss in weight in nine instances was slight, a maximum of 5 to 5½

pounds. Two patients actually showed gain; one remained in equilibrium. In the last five cases a moderately severe loss was noted. Discussed individually, Patient 12, during a febrile period of twenty days, lost 11½ pounds, but during this time his nourishment per day averaged only 3,010 calories. This patient was an emaciated, poorly nourished man, who, from obstinacy and preconceived notions of his own, was induced to eat only with difficulty. His temperature remained at a high level on account of a complicating bronchitis and bronchopneumonia.

Patient 13, sick with fever twenty-one days, took nourishment very well (average 4,400 calories), yet lost 5½ pounds. The toxemia was marked; his general state of nutrition on admission was very poor. It is of interest to note that even 4,400 calories per day were insufficient to prevent tissue loss. Such a diet contains over 100 gm. of protein.

Patient 14, observed during relapse, ate heartily, food equivalent to 3,800 calories daily, during the febrile period. This diet contains about 90 gm. protein and represents an ingestion of about 76 calories per kilogram of weight. Yet this acknowledged superfluity of nourishment was ineffectual in staying tissue loss.

Patient 15, suffering from severe toxic fever and pulmonary complications during twenty-nine days of high temperature, lost 13 pounds, despite a diet of 3,650 calories or 73 calories per kilogram of body weight every day.

Case 16 was an unusually prolonged and severe one; week after week for no discernible cause, except the original typhoid infection, the temperature remained high with only occasional remissions. The patient at first took nourishment well, then with increasing prostration and weakness, began to show distaste for food and sank into a semicomatose delirium. The loss of flesh during this period was very evident from week to week. With the general improvement accompanying the defervescing fever, appetite improved and the nourishment was increased without difficulty. Thus the patient received an average diet of 3,590 calories or about 65 calories per kilogram daily for twelve weeks, in spite of which a large loss of weight was recorded.

During the second period of observation of these cases, or the period of convalescence, a gain in weight was uniformly observed. Thus Table 7 demonstrates the change of weight in each corresponding case of Table 6 during convalescence:

TABLE 7.—COMPARATIVE AND TOTAL LOSS OR GAIN DURING CONVALESCENCE

Case		Days of Convalescence	Food Value in Calories	Difference of Weight, Pounds	Total Gain or Loss of Weight Throughout Illness, Pounds
1	Y. E.	5	3,700	+ 2	+ 0
2	404	9	4,880	+ ½	— 1
3	A. W.	..	.....	.....	.....
4	J. S.	..	.....	.....	.....
5	L. H.	..	.....	.....	.....
6	I. K.	14	.....	+ 8½	+ 3
7	A. S.	8	3,800	+ 2	+ ¾
8	I. B.	7	5,300	+ 6	+ 4
9	381	6	5,000	+ 2¾	— 1¼
10	A. T.	13	5,200	+ 4	+ 4
11	391	..	.....	.....	.....
12	G.	6	4,300	+ 4	— 6½
13	S. K.	13	4,300	+10½	+ 5
14	384	..	.....	.....	.....
15	A. D.	7	5,000	+ 4	— 9
16	C. F.	21	5,250	+13	—17

In two instances a slight temporary loss of weight was observed during the first few days of convalescence. This rapidly gave place to a gain on full diets. Of the sixteen patients on whom weight observations were made, seven were discharged from the hospital showing after short periods of convalescence (one to two weeks) gain in weight; this total gain varied from ½ to 5 pounds. Eight patients showed a loss, varying from 1 to 17 pounds. One patient showed neither gain nor loss.

In short, we may say that during the febrile period with diets ranging from 2,840 to 4,400 calories, thirteen cases out of sixteen showed some, usually slight, loss of weight (in two cases this was moderate, 11½ and 13 pounds; in one case severe, 30 pounds). During the convalescent period, a uniform gain occurred in *all* instances, so that on discharge seven of the sixteen patients had more than overcome their loss, while one case remained in balance. A slight loss was noted in two of these cases in the first few days.

Complications.—Of the milder complications we note only those usually encountered in this type of disease, namely, bronchitis, bronchopneumonia (one case), thyroiditis (one case), phlebitis (one case). Among the more severe complications marked toxic myocardial degeneration was noted clinically in only one case (febrile duration thirteen weeks); acute nephritis once.

Complications during convalescence were unknown, except for two cases of axillary furunculosis which had persisted from the earlier febrile period. A case of intestinal hemorrhage in the series was of interest; in fact, the patient was admitted to the hospital moderately exsanguinated. Within forty-eight hours, under treatment with opium and ice-coil and very light fluid diet, all signs of hemorrhage ceased. This patient then gradually received the liberal diet as above described, so that within five days she was receiving an almost maximum ration. No further intestinal hemorrhage occurred, and the recovery from the anemia, even during the course of the illness, was surprising and gratifying.

Perforation did not occur in our series.

Relapses.—In regard to the mooted question of the relation of liberal diet to relapses, the following figures are offered: three relapses occurred after a typical febrile course, during which febrile period the patient had received the liberal diet; one relapse occurred within a few days of admission, the patient having been previously maintained on a strict fluid diet. Omitting this last instance of a relapse, which was independent of any unusual dietary conditions, we must consider three relapses in a total of twenty-eight cases, or 10.7 per cent. This figure is certainly not greater than that presented by statisticians for the incidence of relapse in typhoid fever under various diets (8 to 12 per cent.).[2] In all three of these cases the food had been well taken, and no unusual gastro-intestinal symptoms had been noted. In one instance a mild recrudescence of temperature was noted (this patient was also pregnant). There was no mortality in this series of observed cases.

DEDUCTIONS

Before proceeding to draw any conclusions on the subject of liberal feeding in typhoid fever, more strictly of forced carbohydrate feeding, the reservation must be made and seriously considered, that conclusions drawn from so scant a material (about thirty cases, of which sixteen only were studied with regard to weight), must necessarily be based on evidence insufficient to make them convincing. But in the light of the awakened and active interest relating to liberal feeding in infectious fevers, it was considered of sufficient value to present

2. Mt. Sinai Hospital Reports, No. 1. Dr. Rudisch: Incidence of relapse in total number of 974 cases = 8.42 per cent.

these figures and facts and to draw at least tentative conclusions therefrom.

Meara,[3] in a recent article, has most ably summarized our knowledge of the metabolism of infectious fevers. He has considered and discussed the point of nitrogen loss in fevers and the ideas of Coleman and Shaffer in regard to protecting this loss. In his conclusion he writes: "It has been proved, then, that in some men suffering from severe acute infectious disease, the protein loss can be stayed by the administration of a large quantity of foods; but whether this fact could be wisely used as a basis of procedure is a debatable question."

It is in order to offer some points toward deciding this debatable question that these studies were made.

The conclusions offered are as follows:

1. *The diet is a practical one and is well taken by the patient.* We have entertained no difficulty in feeding to patients throughout the active febrile period, diets ranging in caloric values from 3,000 to 4,700 units. As surprising as these figures are at first sight, yet just as surprising and gratifying is the ease and success of this dietary. The food is well borne, nausea or vomiting exceptional, abdominal distention and intestinal symptoms practically unknown.

2. *The nutrition of the patient remains, in all but the most severe cases, unusually good.* More than slight loss of weight is not often noted; the drawn, emaciated, starved facies of the patient fed on a restricted fluid diet is conspicuous by its absence, and is replaced by the well-nourished condition of the body, and the hopeful and satisfied countenance of the sufficiently fed.

3. *Most cases show a slight loss in weight.* In regard to the actual weights, I must admit a disappointment, for it was hoped that with so liberal a diet all loss of tissue (muscle protein) would be spared. We must realize two conditions; first, that during the febrile period almost all the patients showed some loss of weight; and second, that during the second or convalescing period they all showed gain, a gain which in over 50 per cent. of the cases was sufficient to counterbalance the previous loss and show a net increase for the total period of observation. Shaffer and Coleman, in the course of their investigations, were able, for *short periods of time*, to maintain nitrogen and weight equilibrium on diets of caloric value equal to or not greater than those employed by us. Not only that, but in four of six cases studied by them, an actual increase of weight was demonstrated even during the active febrile period. To explain this discrepancy requires attention to the figures and facts in both sets of experiments.

Careful analysis of the figures of these authors reveals two facts. The first is that not every gain in weight is accompanied by a positive nitrogen balance in the excretions (cf. Case 5 of their series); or, in other words, a liberal carbohydrate-rich diet may create a total enhancement of weight and yet not completely "spare" nitrogen loss in the presence of fever. Second, the protein value of the diet given by Coleman and Shaffer was in most instances higher than mine and in many instances unusually high. Thus, while the protein value of the diets in my series ranged between 70 and 100 gm. per day, that of these authors showed a variation between 75 or 80 and 120 or even 140 gm. protein in the daily ration.

Therefore, comparing the two series of experiments, I am led to deduce, first, that the maintenance of weight in the series of Coleman and Shaffer was dependent on a *liberal carbohydrate diet with an abnormally high protein proportion;* second, that, in some individual instances despite the administration of a diet whose caloric value was so high as to produce *even a gain of weight in the presence of pyrexia*, a small loss of nitrogen was unavoidable. This latter nitrogen loss was unquestionably a part of the so-called "toxic" loss of nitrogen so frequently referred to and quoted.

The data in my series of cases would particularly emphasize this latter fact, for very liberal diets were given, which seem more than enough to overcome loss of body tissue due to starvation or pyrexia, yet loss of weight is noted during the active stage of the disease, and this we can only attribute to the "toxic" disintegrating action of the infecting organism on the protein tissues of the body. That this toxic loss of nitrogen was minimized and in great part prevented, I hold is proved by the small loss in weight in even the severe cases, and the rare instances of even a moderate loss. But that it can be "prevented or compensated for" seems improbable in all but occasional favorable exceptions. A repetition of the connitions of the experiment, but with higher protein values in the daily ration (over 100 gm. per diem) would be of value in determining whether the small loss of weight which I was unable to check was actually due to insufficient *protein* nutrition.

The absence of nitrogen analyses in our observations is to be sincerely regretted, but as the study was a clinical one on the utility of the diet as suggested by Coleman and Shaffer, chemical analyses of the excretions were omitted.

The unexceptional compensatory gains in weight during convalescence are not surprising, for the cessation of the toxic process and the fever, and the liberal diet offered should tend to repair of tissue.

4. *The period of convalescence is shortened.* It was extremely gratifying to note almost immediately on the cessation of the fever, the rapid return of the strength and buoyancy of spirit of the patient. The lassitude and enervation following a serious illness was for the most part absent, and replaced by hope, good nutrition and anxiety of the patient to return to his duties.

5. *The disease seems to be better tolerated.* In my series of about thirty cases, complications were rare, and there were no deaths. Of course, in so small a series it would be unwise to attempt to draw statistical conclusions as to frequency of complications, duration of course, etc. It cannot be said that the duration of the febrile period was in any wise abbreviated, nor was the incidence of relapse materially altered. But that the severity of the symptoms was mollified, that nutrition and strength were better maintained and convalescence shortened, seems to have been satisfactorily established.

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3. THE JOURNAL A. M. A., June 17, 1911, p. 1771.

The Relation of Chemistry to Medicine.—The life of an organism in all its activities manifests itself through and, materially speaking, consists in chemical changes in the substances that compose that organism. The study of the normal course of these changes constitutes physiologic chemistry; the study of the disturbances to which this normal course is liable in disease constitutes pathologic chemistry. Every function of the body is a manifestation of ordered chemical change. Every disease is a manifestation of disordered chemical change. By determining the nature and cause of the disorder you determine the nature and cause of the disease; and till this has been determined no rational treatment of disease is possible.—J. B. Leathes in *Canadian Med. Assn. Jour.*

BLOOD-PRESSURE OBSERVATIONS ON PATIENTS WITH RELAXED ABDOMINAL MUSCULATURE *

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Systolic blood-pressure readings taken while the individual observed is standing vary more or less from readings obtained in the recumbent posture. Edgren, Cook and Briggs, Gärtner, Goldwater, Hill, and Brush and Fayerweather, quoted by Janeway,[1] found the pressure 5 to 15 mm. Hg lower in the horizontal position, while Hensen, Friedmann, Shapiro and von Recklinghausen, quoted by the same author, found a fall of 10 to 15 mm. Hg on standing. Janeway[1] gives the increased ratio to the standing position and Michell observed the variation in the same direction. Evidence relative to the physical condition of the individuals examined is, in most cases, wanting, though Michell's[2] examination of over 1,600 Cambridge athletes is suggestive and serves to direct inquiry toward the physical condition as a cause for the difference of opinion. The numerous factors concerned in the production and maintenance of the blood-pressure and the various influences, both mental and physical, which may alter it, make it difficult to correlate the results obtained by different observers. In a healthy individual variations in the readings occur at different times during the day, bearing some relation to the taking of food, mental states, amount and kind of work done, and the ability to withstand fatigue and to recuperate therefrom.

The observations on which this brief report is based were undertaken for the purpose of determining to what extent postural variations in blood-pressure were present in cases of enteroptosis with relaxed abdominal musculature. It had been observed that in these patients the systolic pressure usually fell from 10 to 25 mm. Hg on standing after lying; that the severity of the symptoms seemed to bear some relation to the amount of systolic fall, being more marked with a low reading, and that on the days when these individuals were feeling their best, the reading taken while standing remained close to the one obtained in the recumbent posture.

That the results of the examinations might be as accurate as the means at hand would permit, in the beginning both the Erlanger sphygmomanometer and the Faught blood-pressure apparatus were used, the auscultatory method of Korotkoff[3] being employed with the latter, and the diastolic pressure being read at the fourth phase. Later, as there was little variation in the results obtained by the two methods, we adhered to the latter as being simpler and occupying less time. In some patients whose arteries possess little tone and whose pulse-pressure is low, it is difficult to get an accurate diastolic record; we therefore omitted them from the charts as being useless in computing the averages. The figures, then, representing the pulse-pressure in Table 3 may be considered as being a trifle higher than the true conditions warrant. Determinations in the horizontal position were made repeatedly until the pressure became constant. The standing readings were taken immediately after the patient rose from the table.

* Read before the San Francisco County Medical Society, Nov. 14, 1911.

1. Janeway, Theodore A.: The Clinical Study of Blood-Pressure, 1904.
2. Quoted by Sir C. Allbutt in Allbutt's System of Medicine, Ed. 2, vi, 201.
3. Gittings, J. C.: Auscultatory Blood-Pressure Determination, Arch. Int. Med., August, 1910, vi, 196.

HEALTHY INDIVIDUALS LEADING MODERATELY SEDENTARY LIVES

In Table 1 it will be observed that while the systolic pressure is well maintained during change of position it did not rise on standing as in the athletes examined by Michell. This is due to the fact that these subjects, though healthy, were not in their best physical condition. Since the degree of muscular tone bears an important relation to the rapidity with which the effect of gravity in the standing position is overcome, in well-trained men immediate adjustment of the circulation is effected in the changed position.

The systolic determinations, however, present only one side of the question and in order to determine to what extent the blood-propelling mechanism is efficient, consideration must also be taken of the diastolic pressure, pulse-pressure and pulse-rate. Erlanger and Hooker[4] found that the diastolic pressure rose, the pulse-pressure decreased and the pulse-rate rose accordingly on standing after lying. This is in accord with the findings given in Table 1, and with the systolic pressure there given probably represents the blood-pressure conditions present in healthy individuals not undergoing muscular training.

TABLE 1.—TYPE CASES OF NORMAL INDIVIDUALS LEADING MODERATELY SEDENTARY LIVES

Subject	Time	Position	Max.	Min.	Pulse-Pressure	Pulse-Rate
1	3:12	Reclining.	120	70	50	84
1	3:20	Standing.	120	80	40	84
2	3:00	Reclining.	120	75	45	80
2	3:20	Standing.	118	80	38	84
3	3:00	Reclining.	108	78	30	84
3	3:10	Standing.	106	88	18	88
4	2:04	Reclining.	124	80	44	71
4	2:12	Standing.	120	90	30	74
5	2:19	Reclining.	120	72	48	82
5	2:32	Standing.	115	74	36	84

Average of twenty cases:

Fall of the systolic	3.1 mm.
Rise of the diastolic	7.6 mm.
Fall in pulse-pressure	9.8 mm.
Increase in pulse-rate	3.0 mm.

PERSONS WITH RELAXED ABDOMINAL MUSCULATURE

In the subjects with marked abdominal muscle relaxation (Table 2), the systolic pressure always fell from 10 to 25 mm. Hg on standing after lying. The diastolic, instead of rising, either remained stationary or fell and the pulse-pressure decreased as in the normal. But this decrease in pulse-pressure was caused, not by a diastolic rise as in the normal, but by a systolic fall. It is quite a different matter if the decrease in the pulse-pressure is brought about by a fall in the systolic rather than by a diastolic rise. Pulse-pressure may be increased, decreased or unchanged, according as the systolic and diastolic pressure, separate, come together, or move to the same extent in the same direction.

In this group, the noticeable increase in the pulse-rate, while undoubtedly effectual in preventing the extreme results of change in position, was yet inadequate to overcome entirely the effect of gravity.

4. Erlanger and Hooker: An Experimental Study of Blood-Pressure and Pulse-Pressure in Man, Johns Hopkins Hosp. Rep., xii, 236.

The question now arises, is the fall in the blood-pressure on standing due to the relaxed abdominal musculature, or is it due to other factors?

If the cases of abdominal relaxation with ptosis in which symptoms were present were considered alone it might be concluded that the relaxation bore a definite causative relationship to the fall in blood-pressure. Indeed, there is an abundance of anatomic and physiologic evidence which might be used in support of such a contention. The diaphragm has long been considered as a most important adjunct to the circulation. Its chief use is in the standing position when, acting in opposition to the abdominal muscles, it forms the so-called respiratory pump and assists in lifting the blood from the abdominal veins to the right heart. In the recumbent posture the need for the respiratory pump no longer exists, the diaphragm moves slightly or not at all, the respirations become thoracic in character and the circulation of the blood is maintained by the action of the heart and vasomotor system.

From laboratory experiments Emerson[5] concluded that:

In the animals tested it is normal to exhibit a pressure in the free abdominal cavity which is above atmospheric pressure; that whatever diminishes or abolishes the tone of the diaphragm and abdominal muscles causes a fall in the positive abdominal pressure and that whatever increases the tone of the diaphragm and abdominal muscles will cause a rise in the intra-abdominal pressure above normal.

TABLE 2.—TYPE CASES OF RELAXATION OF THE ABDOMINAL WALL

Subject	Time	Position	Max.	Min.	Pulse-Pressure	Pulse-Rate
1	2:00	Reclining.	118	85	33	76
1	2:15	Standing.	92	72	20	92
2	2:46	Reclining.	124	85	39	84
2	2:55	Standing.	104	80	24	92
3	2:30	Reclining.	130	95	35	84
3	2:40	Standing.	110	85	25	104
4	3:33	Reclining.	110	78	32	70
4	3:45	Standing.	100	70	30	90
5	2:10	Reclining.	120	95	25	84
5	5:20	Standing.	110	95	15	90

Average of twenty-five cases:
Fall of the systolic..... 19.5 mm.
Fall of the diastolic..... 6.1 mm.
Fall of pulse-pressure..... 8.0 mm.
Increase in pulse-rate..... 15.0 mm.

TABLE 3.—RELAXED MUSCULATURE COMPLICATED WITH CHRONIC NEPHRITIS

Subject	Time	Position	Max.	Min.	Pulse-Pressure	Pulse-Rate
1	2:15	Reclining.	150	95	55	72
1	2:25	Standing.	158	110	48	76
2	11:05	Reclining.	165	110	55	68
2	11:15	Standing.	165	110	55	74
3	11:30	Reclining.	175	90	85	64
3	11:45	Standing.	165	90	75	66
4	12:14	Reclining.	180	95	90	78
4	12:25	Standing.	174	110	64	90

Average fall of the systolic..... 2.00 mm.
Average increase of the diastolic.. 7.50 mm.
Average fall of the pulse-pressure 10.75 mm.
Average increase in the pulse-rate 6.00 mm.

Arthur Keith[6] says:

In man the pressure exerted on the abdominal contents by the abdominal muscles, maintaining one viscus against another may be estimated at from 6 to 12 mm. Hg. The muscles of the abdominal wall are active opponents of the diaphragm, and when the abdominal muscles are paralyzed the diaphragm is thrown out of action just as completely as if it were intrinsic paralysis. But directly a support is applied to the lower part of the abdomen, the epigastrium fills out and by the aid of the radioscopic screen the diaphragm is seen to be pressed up, assuming an expiratory position, and immediately eases the movements of respiration, slows and improves the heart-beat and raises the arterial pressure.

Again Emerson[7] says:

Any marked loss of abdominal tone is recognized clinically as a contributing cause of venous stagnation in the abdominal viscera, and this means a delayed or insufficient venous return to the right heart, a diminished output and a fall in the arterial pressure, or a pressure maintained only at the expense of greater cardiac action. In general, it may be stated that a lack of normal abdominal pressure is a contributing cause of general arterial low pressure.

But there are many patients with extreme ptosis and abdominal walls absolutely atonic who suffer no symptoms referable to the disorder itself or to its effect on the circulation. It is a matter of common observation that visceral ptosis of marked degree may exist without producing a single subjective symptom. True, in these cases it is usual to find a greater systolic fall on standing than in the normal. But the diastolic is well maintained, and so long as it is, the effect of gravity is compensated and the circulatory symptoms are absent.

Interesting in this connection is the effect of arterial hypertension. Table 3 shows four cases of extreme abdominal muscle relaxation complicated with chronic nephritis. This condition was sufficient to maintain both systolic and diastolic pressures, during change of position and in some cases even to the extent observed in athletes. Injurious as the chronic nephritis may have been in other directions, it certainly served to counteract the effect of the relaxation, for the cases observed were free from subjective symptoms.

It is generally agreed that the larger part of the vasomotor regulating function resides in the splanchnic circulation. Of all the parts of the vascular system, the abdominal vessels enervated by the splanchnic nerves have by far the greatest effect on the general blood-pressure. Such an effect is seen in section of the splanchnic nerves. On the other hand, constriction of this area causes the blood-pressure to rise.

The splanchnic circulation is maintained by two main factors: first, the vasomotor mechanism, and second, the action of the diaphragm, the so-called respiratory pump. The diaphragm depends for its normal action on the integrity of the abdominal muscles. If they are deficient in tone, the diaphragm remains in the inspiratory phase with a consequent loss to the circulation of the respiratory pump. Thus the whole burden of maintaining the splanchnic circulation in the standing position falls on the vasomotor mechanism and it is not until this fatigues that symptoms appear.

The association of splanchnoptosis with relaxed abdominal wall has long been recognized and the accompanying symptoms have usually been ascribed to stretching or torsion of the visceral supports or to intestinal angulation. That the lowered position of the hollow viscera is detrimental to their function seems unlikely,

5. Emerson, Haven: Arch. Int. Med., June, 1911, p. 754.
6. Keith, Arthur: Allbutt's System of Medicine, Ed. 2, 10, 867.
7. Emerson, Haven: Arch. Int. Med., June, 1911, p. 754.

for an otherwise healthy intestine should be able to propel its contents with equal facility in any direction. It has been seen that visceroptosis of marked degree may exist without producing a single subjective symptom. Where, however, symptoms do arise, they are of two types: neuropathic, as syncope, vertigo, insomnia, etc., and gastro-intestinal, as indigestion, meteorism, constipation and mucous colitis. A discussion of the former group only is within the scope of this paper.

In relaxation of the abdominal musculature we find a decreased intra-abdominal pressure and a decreased power of aspiration of the heart and diaphragm which tend to permit stagnation of the blood in the visceral veins. If, then, the vasomotor system becomes incompetent the amount of blood returning to the right heart per unit of time is less than normal, the systolic output is diminished, and we have a degree of chronic anemia of the tissues. This *must* have its effect on the cerebral circulation, to changes in which some of the symptoms can be ascribed.

Leonard Hill[8] tells us:

> The intracranial pressure is purely circulatory in origin and may vary largely with the changes in the general circulatory pressure. In all physiologic conditions a rise of the arterial pressure accelerates the flow through the brain, a fall slackens it.

Erlanger and Hooker, quoted from Hirschfelder,[9] say:

> When normal men were supported and kept motionless in the vertical posture the blood-pressure fell (e. g., maximum fell from 120 mm. to 103 mm., minimum from 92.5 mm. to 86 mm., pulse-pressure from 26.7 mm. to 17 mm.), and in one case there was "pallor, yawning, a feeling of warmth, faintness, nausea," and threatened syncope. These are the symptoms of cerebral anemia common in patients with enteroptosis.

VERTIGO IN VISCEROPTOSIS

The dizziness frequently present in cases of visceroptosis is often attributed to the movable kidney, discovered on examination. In the text-book dizziness is given as one of the prominent symptoms of nephroptosis. But where dizziness is present, if the blood-pressure is taken, it will be found to show both a systolic and a diastolic fall on standing after lying.

In order to understand how the vertigo may develop in these cases it is necessary to review briefly the mechanism of space orientation. The sensations which originate in the semicircular canals probably give the fundamental perception of equilibrium. This perception is conducted by the vestibular nerve to, and prepared in, the cerebellum, but does not become a conscious sensation until it reaches the cerebrum by way of radiating fibers passing through the cerebellar peduncle and red nucleus. Circulatory conditions which cause abnormal excitation of the semicircular canals, such as cardiac diseases, arteriosclerosis, anemias, give us a contradiction between the perception from the semicircular canals and the position of the body as elaborated by the cerebrum. Thus in these cases with unstable circulation the excitation of the semicircular canals may be out of proportion to the stimuli received and consequently we have a false conception of space.

INSOMNIA IN VISCEROPTOSIS

Insomnia, present in a large percentage of these cases, we believe to be due to the fact that in the recumbent posture the blood-pressure is increased over what it is in the vertical position. This brings about the condition of the normal man when standing, one of accelerated cerebral circulation. In order to maintain the circulation in the erect position the vasomotor mechanism is tuned to its utmost capacity and adjustment in the horizontal posture is not so readily accomplished. Consequently there is an accelerated cerebral circulation for a considerable time after lying down and the onset of sleep is retarded. We have been able to produce sleep in many of these cases by raising the foot of the bed a few inches, thus increasing the pressure in the superior vena cava and thereby impeding the cerebral circulation.

TREATMENT

The treatment of these cases has been varied and unsatisfactory. Efforts with rest, supports, diets, overfeeding, exercise and surgery have too often met with discouraging results. The benefits derived from rest in bed are due mainly to the fact that in the horizontal posture the piston-like action of the diaphragm is not required either for respiration or circulation. The circulation and nutrition are improved, the patient gains in weight and has a feeling of general well-being. But as soon as the vertical position is assumed, the strain is again put on the splanchnic circulation and when this becomes fatigued the symptoms recur.

The reason that the abdominal support does not wholly relieve the symptoms is that it accomplishes only part of the work of the normal muscles. It holds the abdominal wall in a position of muscular contraction and the diaphragm in expiratory phase, for, being more or less of a fixed support, it does not relax as the normal muscles in the inspiratory phase; thus the diaphragm is unable to make its complete excursion and only part of the effect of its suction action is obtained.

The subjects of diet, exercise and surgical treatment have recently been brought to notice and will be omitted here.

If the splanchnic circulation can be made to compensate, the symptoms of cerebral anemia will disappear, but this will, however, have little or no effect on this great atony which is after all the fundamental problem. To relieve the symptoms by causing the splanchnic circulation to compensate is no simple matter; to quote the words of Mackenzie:[10]

> The question of low pressure and its treatment is an extremely puzzling one. Here again we meet the confident assertion in hypotonic conditions, give cardiac stimulants or vasoconstrictors. The matter is, however, far more complicated and I am only dimly groping after the true principles of treatment in these cases.

CONCLUSIONS

1. It may be normal to have a slight systolic fall on standing after lying in healthy individuals who are not undergoing active muscular training.

2. Patients with relaxed abdominal musculature and enteroptosis, not showing subjective symptoms, will be found to have at least the diastolic sustained in change of position and it may be assumed that the vasomotor mechanism is competent.

3. Patients with relaxed abdominal musculature and enteroptosis with circulatory symptoms will show both a systolic and a diastolic fall on standing after lying.

4. The neuropathic symptoms found in these cases are not due to the malposition of the viscera nor can

8. Hill, Leonard: Pathology of the Cerebral Circulation, in Allbutt's System of Medicine, Ed. 2, viii.

9. Hirschfelder, Arthur: Diseases of the Heart and Aorta, 1910, p. 599.

10. Mackenzie, J.: Diseases of the Heart.

they be placed among the neuroses. They are entirely dependent on the cerebral anemia.

5. The circulatory changes, while the cause of the symptoms, are not the primary etiologic factors, but are second to the great muscular atony, the cause of which is yet unknown.

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A STUDY OF SECONDARY ANEMIA IN PANAMA

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CRISTOBAL, C. Z.

In this country the only known diseases which occur with sufficient frequency to account for the grave secondary anemias are malaria fever and uncinariasis. My studies have been mainly directed to these two diseases to ascertain, if possible, which of the two is the more often responsible for secondary anemia or, when both infections are present in the same individual, which one is more responsible for blood destruction.

In the course of this study another problem has presented itself for solution. It was found that 18 to 20 per cent. of all laborers admitted to Colon Hospital were infected with malaria parasites and uncinaria, but no such proportion disclosed any evidence of severe anemia. The few of those who did disclose evidence of severe anemia apparently had no severer or more chronic infections than those of the first class.

With the idea, then, of finding the cause for this discrepancy, inquiries were made into the mode of living, the kind of food and the economic status of these anemic individuals. Where information on these points could be obtained, this pointed in three cases to absolute lack of food, frequently for one to three days at a time, and in others to the poor quality of the food. Four of the seven patients were "Zone Charity," one a recent arrival on the Isthmus. I have had the good fortune to be able to study these anemias under somewhat varying circumstances.

I have studied first, people whose living is influenced by the direction and care of the Canal Commission through the sanitary department; second, people living usually the ordinary life of the tropics, and third, the derelicts drifting in under "Zone Charity."

I have taken up malaria fever without uncinarial infection; uncinarial infection without antecedent malaria, and malaria fevers with concomitant uncinariasis, and inquired into the amount and quality of food, etc. I shall discuss these subjects in the order named and make a brief reference to the phenomenon of splenomegaly.

All of our laborers would be called anemic with 100 per cent. hemoglobin normal, for about 80 to 85 per cent. hemoglobin will be found an average among them.[1] But they maintain a good working efficiency with this average and even down to 70 per cent. hemoglobin. When the hemoglobin registers below 60 per cent. they make very little attempt to work. For the purpose of this paper, therefore, 60 per cent. hemoglobin will be considered the dividing line, and all cases below this point will be classed in the grave secondary anemias.

MALARIA FEVER WITHOUT UNCINARIASIS

The number of patients coming under our observation in the various hospitals suffering from malaria fever in its various forms and degrees of severity is very large. One cannot help having his attention called to the good general appearance of these sufferers, both as to the color of the mucous membranes and the body vigor; and also to the promptness with which they regain the normal even after pernicious attacks of malaria fever. It is true that in this work we do not observe many untreated or neglected patients with malaria, but we do observe a large number of them who will not remain under treatment a sufficient length of time to become entirely free from their infection. Hence a certain proportion of our cases are in every sense latent malarias, in that the patients go about their duties harboring parasites for a considerable time. They have recurrent attacks at various intervals, and perhaps gain new infection on the old as well. The proportion of malarial infection to our morbidity rate averages about 60 per cent. The proportion of severe anemia, that is, hemoglobin below 60 per cent., in 1,755 patients of all diseases admitted to Ward L, Colon Hospital, was about 1 per cent., or, figured on the basis of 1,053 malarial admissions, there would be severe anemia in 1.61 per cent. If this anemia could be charged to malaria as the cause, this small percentage would still excite comment, but as a matter of fact these anemias cannot be charged to malaria as a cause except as a contributing one. All of these anemias gave a history of previous malaria fever, but all the patients were infected by uncinaria. Then it may be said we have no severe anemias here due to uncomplicated malaria. I am excepting hemoglobinuria in this paper, because it is a syndrome of malaria, of too rare occurrence to be counted a factor in these anemias.

We are taught that malaria is one of the common causes of anemia in the tropics. Then the question comes, why it is that we have no grave anemia among our laborers. It is not because we have no malaria, nor is it because we have no severe infections.

I think the question can be answered in three ways: 1. Our laborers are always promptly treated at the beginning of their attacks; if not completely treated they at least get some treatment. 2. They are relatively well supplied with food. 3. It is due to a natural immunity which the individual gains after several attacks of malaria.

It is a well-established belief among the laity, and medical men as well, that when one has resided for a variable length of time in a malarious country one becomes relatively immune to malaria fever; in common parlance, one becomes acclimated or "salted." This belief seems to be borne out by sufficient facts to establish it into respectability and as a working basis.

Brem and Zeiler,[1] in 1906-7, studied the hemoglobin estimate in 359 patients with various diseases. Their study disclosed the fact that in malaria fever there was a diminution of hemoglobin to the third or fourth attack of fever, but in patients with six or more attacks there was an increase of 7 per cent. of hemoglobin over patients who had had from three to five attacks; which finding led them to conclude as follows:

> **The hemoglobin curve of malarial patients varies inversely with the number of previous attacks of malarial fever until a relative immunity or tolerance for the malarial poison is developed, when a rise of hemoglobin occurs. This rise does not take place in patients infected with uncinaria.**

I have not made a detailed study of the hemoglobin estimate of malarial patients without uncinarial infection, and I have confined myself to patients whose con-

1. Brem and Zeiler: A Study of Hemoglobin of Colored Laborers in Panama, Arch. Int. Med., June, 1910, p. 569.

dition would suggest a hemoglobin estimate of 60 per cent. or less, or whose fever for some obscure reason was unusually resistant to treatment with quinin, and to those who gave a history of five or more attacks. Of this latter class I have four patients with five or more attacks and negative for uncinaria. The hemoglobin is as follows:

5 attacks 75 per cent.	7 attacks 85 per cent.
6 attacks 84 per cent.	12 attacks 81 per cent.

These estimates were made from twelve to twenty-four hours after the subsidence of temperature of an acute attack of malaria. Though the number of patients is small, the findings verify, in general, Brem and Zeiler's findings as quoted above. That these findings are in the main correct is self-evident, for if hemoglobin was lost with each succeeding attack of malaria fever in proportion to the gravity of the infection, with only short intervals for recuperation, it would be a matter of only a little time till all malarial subjects would be helpless from anemia.

In the latent malarias, that is, in patients who harbor parasites without manifestation of disease, the effect on the hemoglobin is open to question. It would seem, though, that, as the patient is able to maintain a reasonable balance as to health, the blood-making organs would also maintain their balance and there would be no loss in cells or hemoglobin. Moreover, the findings noted above indicate that there is not only no loss, but actual gain in latent malaria, for most of our "repeaters" are relatively latent malarias. They are the patients who refuse to remain under treatment for sufficient time to be perfectly cured and return to work with parasites still in the blood. It is true that there may be cases that are exceptions to these conclusions, but they must be extremely rare, for with a rather long observation of malaria in Ancon and Colon hospitals, I have not encountered any grave secondary anemias due to malaria alone. The grave anemias are always concomitant with hemoglobinuric fever, nephritis, or uncinariasis, most usually the latter.

Malaria fever, therefore, like any other acute infectious disease, tends to establish an immunity, but unlike most other infectious diseases, the process is a slow one, and peculiarly for malaria, it admits during this process toward immunity, any number and variety of complicating infections.

UNCINARIASIS WITHOUT ANTECEDENT MALARIAL INFECTIONS

By direction of Colonel Gorgas I was assigned to two weeks' duty on Taboga Island to study uncinariasis among the natives of Taboga village.

Taboga is a volcanic island, twelve miles from the mainland, and rises abruptly out of the sea to a height of about 1,000 feet. It is mostly free of timber, is well supplied with fresh water from springs, and contains no marsh land and no level ground except about three acres of sandy soil overlying a stratum of coral reef on its northern end.

This island is unique in being situated in the midtropics and yet entirely free from malaria and all other tropical infections except beriberi, an occasional case of leprosy and intestinal parasitism. The latter flourishes in greatest profusion. All the inhabitants, about 1,500, dwell in a closely packed village with no streets. The houses for the most part are square huts of two rooms with dirt floors. There are no latrines or closets for the disposal of sewage. All the excreta and waste are thrown where it suits the fancy of the individual and there left to wash into the sea by the rains. The living-rooms are occupied by day impartially by dogs, chickens and children, along with the older people, and in a few instances evidently the same arrangement obtained by night also. Cleanliness of the body and wearing apparel is universal, and the sleeping arrangements, though primitive, were in most cases clean also. It is in the preparing and serving of the food that the engulfing of filth reaches its climax. It is often a race between a chicken and a child to see which shall get the most food out of the same calabash bowl. Naturally, then, one would expect intestinal parasitism to be well-nigh universal and I found it almost so.

It was necessary to visit from house to house to get the people, and in this manner I succeeded in taking the hemoglobin estimates of 104 people with Dare's hemoglobinometer, and sixty-four of these responded with stool specimens. Eighteen of the male population gave a history of exposure to malarial infection and stated that they had had "fever" a number of times. The blood of all these was examined for malaria parasites, but in only four of them were parasites found—two estivo-autumnal, one quartan and one tertian. In all these cases with a history of malaria there was splenic enlargement, varying from percussion dulness to 20 cm. in the greatest area of splenic dulness.

In the women and children and men with no history of exposure to malarial infection, there was no splenic enlargement. Each of the 104 people was examined for splenic changes and all examinations were made with the patient in bed or on a cot.

The hemoglobin estimates were made only on those whose appearance indicated a considerable degree of, or a severe, anemia. Therefore, the findings here will not show the average hemoglobin of these people, but discloses the lowest obtainable average, though eight cases of those examined showed estimates of from 80 to 90 per cent.

There were eighty-six people with no history of antecedent malaria fever and their average hemoglobin was 66.39 per cent. The lowest estimates seen in this series were 25 and 30 per cent., respectively. In this series there were forty-nine stools examined; forty-two, or 85.71 per cent., were positive for uncinaria ova. The two showing estimates of 25 and 30 per cent. were of course positive for uncinaria.

Of the total number of stools examined (sixty-two) parasites were found as follows:

	Per cent.
Uncinaria ova	88
Ascaris ova	96
Tricocephalus dispar ova	100
Amebiasis	19
Balantidium coli, one case	
Strongyloides very frequent but not recorded.	

Several of the stool specimens were very poor for examination, and I think that if the specimens had been better the incidence of uncinarial infection would have shown as high as that of ascaris. The youngest individual in whom uncinaria ova were found was 4 years old. A careful watch was kept for ground itch, but none was seen. Hemoglobin estimates made in childhood, adult, middle age and later life were as follows:

Age	Per cent.
5 to 15 years	66.84
15 to 25 years	69.
25 to 45 years	67.5
45 to 72 years	57.83

In this series the number falling below 60 per cent. was twenty-two, or 25.58 per cent. Inasmuch as my

efforts were directed to the examination of the most anemic of the population—and I do not think I missed any severe cases—it seems to me that the general average of hemoglobin would be fairly good for the whole population. And in this series with no other cause for the anemia than intestinal parasitism, the general average 66.39 per cent. hemoglobin is surprisingly high and the incidence of dangerous anemia, 25 per cent under sixty, is remarkably low. I conclude, then, that uncinariasis can of itself cause a grave secondary anemia and perhaps sufficiently severe to endanger life.

But when we consider this small number—twenty-two—of dangerous anemias in a population of 1,500 or more, in which I think it is fair to assume 85 per cent. are infected with uncinaria to a greater or less degree, such a small incidence of severe anemia is surprising, especially when compared to the anemias of Porto Rico and portions of the Old World; and there must be some contributing causes to account for these wide-spread and fatal uncinarial anemias. This study seems to disclose as the contributing cause or causes, malaria fever or food in insufficient amount or very poor in proteins, and often times both malaria and poor food.

TABLE 1.—BLOOD-FINDINGS IN SEVEN CASES OF UNCINARIAL INFECTION

Case	Malaria	R. B. C.	Hb. (Sahli) per cent.	Color Index	W. B. C.
1	+	850,000	13	.765	12,200
2	—	2,704,000	54	.99	5,700
3	++	3,476,000	70	1.+	6,000
4	—	2,924,000	61	1.04	10,000
5	++	2,704,000	55	1.07	—
6	—	3,080,000	45	.73	7,000
7	—	1,703,000	21	.64	6,000

TABLE 2.—DIFFERENTIAL COUNTS

Case	Polynuclears	Large Lymphocytes	Small Lymphocytes	Eosinophils	Transitionals	Unclassified
1	77	2	15	3	1	0
2	41.5	10.4	40.9	0	5.2	2
6	46	14	32	0	2	4
7	36	26	26	0	6	4
*	70	7	14	7	2—	—

* Taboga case.

MALARIA FEVER WITH UNCINARIAL INFECTION

In discussing uncinarial infection without antecedent malaria, we saw in the analyses of the hemoglobin in eighty-six people that the average was 66.39 per cent., while in the remaining eighteen people in the Taboga series who gave a history of exposure to malarial infection away from the island, and to various attacks of "fever" subsequent to these exposures, the average hemoglobin estimate is only 51.55 per cent. The lowest estimates in the non-malarial cases were 25 and 30 per cent., respectively, and in the malarial cases 10, 12 and 31 per cent.

Of ward cases I have seven worked up somewhat in detail with reference to blood findings and malarial infection. Of the seven cases all gave a history of antecedent malaria. All had fever at the time of admission. Three of the cases had malarial parasites and four were negative. Cases 2 and 6 had splenic punctures and both were negative for malaria either recent or remote and for Leishman-Donovan bodies or *Histoplasma capsulatum* (Darling). One patient (Case 1) had the appearance of frank uncinarial infection, but had malaria parasites also. The remaining cases from appearances would have been classed ordinarily as malarial cachectics. Blood examinations resulted as shown in Table 1.

Differential counts were made in Cases 1, 2, 6 and 7.

In Case 1 poikilocytosis was very marked. Macrocytes, microcytes and intermediate aberrant forms were abundant. Polychromatophilia and nucleated red cells (normoblasts) were also present.

In Cases 6 and 7 macrocytes, aberrant forms, normoblasts and polychrome staining were present. In cases which have both malaria and uncinariasis the question arises as to which infection is the predominant cause for the anemia present. As far as I can gather from Manson, Schaube, Castalani-Chalmers and Craig, if the anemia is severe and the spleen is enlarged and there is a history of antecedent malaria, it is then classed malaria cachexia; if the spleen is not enlarged and uncinaria ova are present, it is classed as uncinariasis, and so on for other tropical infections. Mention is also made of lymphocytosis, eosinophilia and the color index (Rogers) as points of differentiation. A glance at Tables 1 and 2 will show that neither of these blood-findings is constant, nor dependent on any specific cause.

Rogers, quoted by Schaube,[2] offers as a point of differentiation a difference in the color index. That is, if the anemia is primarily caused by malaria the fall in the red blood-cells will be equal with the fall in the hemoglobin and the color index will remain 1; but if the anemia is due to uncinariasis, the hemoglobin falls below the red blood-cells and the color index will be low, say, 0.50.

Though the number of my cases is rather small from which to draw definite conclusions, it would seem from an analysis of them that Rogers' idea is not wholly borne out. It will be observed in my series that as long as the hemoglobin is above 50 the color index is about one, but when the hemoglobin falls below 50 the color index is low. Thus the color index appears to vary merely with the degree of secondary anemia rather than with its cause.

Following these cases further, it is interesting to note the findings with reference to the number of adult uncinaria worms harbored by them. In Case 1, 896 worms were recovered and the patient was discharged after seven months in hospital with red blood-cells, 4,336,000; hemoglobin, 50 per cent.; color index, 63. In Case 2, sixty-eight worms were recovered and the patient was discharged after fifty days in the hospital, red blood-cells, 4,760,000; hemoglobin, 90 per cent.; color index, 93. In Case 3 there were 206 worms recovered; discharged; refused further treatment; stools still contained ova. In Case 4, 117 worms were recovered; discharged; refused further treatment; stools still contained ova. Patient 5 refused treatment. In Case 6, 183 worms were recovered; discharged after twenty-eight days; red blood-cells, 4,248,000; hemoglobin, 65 per cent.; color index, 0.80. In Case 7, the stools contained many uncinaria ova. The patient was given thymol October 7 and the treatment repeated October 10. Only two uncinarias were recovered. Each thymol treatment was attended with the passage of large amounts of mucus and mucous casts of the bowel, and on account of the severe irritation of the intestinal tract thymol treatment was discontinued. Three stool examinations subsequent to treatment were negative for uncinaria ova. However, all the characteristic symptoms of uncinariasis remained present, that is, tenderness over the stomach and duodenum, with accumulation of flatus

2. Schaube: Diseases of Warm Countries, Ed. 2, p. 429.

shortly after eating. Cancer or ulcer of the stomach or duodenum was now considered. An examination of the stomach contents proved negative except for total absence of free hydrochloric acid. As this examination pointed to probable carcinoma, an exploratory operation was made on November 5 by Dr. Lloyd Noland. This disclosed an enormously dilated stomach, liver enlarged but normal in appearance, a number of firm adhesions between the omentum and the gall-bladder, but no evidence of cancer or ulcer in stomach or duodenum. This case is classed especially under the head of semistarvation. The history was direct on this point, and without other treatment than good food, the anemia improved, but the pain in the stomach persisted. The slight fever is accounted for by the anemia. Repeated blood examinations and splenic punctures were negative for organisms or pigment. Search was made for malaria parasites, *Spirillum obermeieri*, Leishman-Donovan bodies and *Histoplasma capsulatum* (Darling). The patient was still in hospital at the time of making this report.

TREATMENT

In the treatment of this series of patients malaria was practically disregarded. Quinin was given in each case till fever subsided—usually five or six days—and then the entire treatment was directed against the uncinariasis and anemia. Most of the patients were impatient of restraint and had to be discharged before results were definite, but in Cases 1, 2 and 6, which were followed up, the result of this method was more than satisfactory.

In Case 2 I think the result was remarkable. The patient's stools were examined carefully on three separate days before any ova were found. Then thymol was given and sixty-eight uncinarias were recovered. In thirty-three days, without quinin, his hemoglobin rose from 54 to 90 per cent., the erythrocytes from 2,704,000 to 4,760,000. The spleen decreased very materially in size also. This patient had an enormously enlarged spleen and all the appearances of a malarial cachectic. Treatment for a malarial cachexia, as my experience has proved, would have been both time and treatment worse than wasted.

With this series of cases, with the exception of the treatment, I have merely arrived at a conclusion that was manifest from the beginning—that with both uncinarial and malarial infections present in the same individual, the loss of hemoglobin would be greater than with either infection alone.

INSUFFICIENT AND IMPROPER FOOD

It was not originally intended to discuss the food question in the etiology of these anemias, but as I began to analyze my cases and data it appeared that I had cases with one infection or both infections, and fairly severe, and yet they remained in a condition of fair labor efficiency and had a good hemoglobin estimate. In casting about for an explanation for the good condition of the one and the poor condition of the other, those in poor condition were always found in the poorly fed, or those unable for lack of money to procure proper food, etc.

Major Ashford in his work on anemia in Porto Rico recognized the relative importance of food or lack of food in the etiology of uncinarial anemia. His report of the Porto Rico Anemia Commission[3] discusses the food quality at some length. He found that the mountaineers lived on food almost wholly free from meats or meat-fats and at times of financial depression on the island these people subsisted mainly on bananas. He reckons the hemoglobin average of these people when he began work there at 40 per cent., with an average red-cell count of about 2,500,000 per c.mm.

On Taboga island the people are very much the same stock as the mountaineers of Porto Rico, a cross of Spanish and Indian stock. Their economic status is much better than that described by the Anemia Commission for the laborers of Porto Rico; still they live in a primitive tropical way. Their food consists principally of rice, bread, plantains, yams, yucca and fruits, though they have fish, some beef and chicken. The hemoglobin average estimate of the Tabogans is all of 66 per cent., and I found only forty people in a population of about 1,500 with hemoglobin below 60 per cent., or 2.66 per cent. of the population below working efficiency.

During the time I have been occupied at this work the admissions to my ward for all diseases were 1,755; of this number 1,051 had malaria fever and blood positive for malaria parasites, and 332 had uncinaria ova. I could not arrive at the exact relation of the two infections in the same individual, but out of 970 laborers whose cases were analyzed by Dr. E. W. Hill with blood positive for malaria, 21.62 per cent. harbored the uncinaria also. My patients being the same class as Dr. Hill's, the proportion would remain about the same. The secondary anemias in the 1,755 cases were, as I have stated before, less than 1 per cent., and these anemias were mostly in non-employees or "Zone Charity" cases, or very recent arrivals on the Isthmus, except one Martinique and one Panamanian.

In Porto Rico the average hemoglobin estimate for laborers is 40 per cent.; in Taboga, as we rise in the economic scale, it is 66.39 per cent., and finally, in canal laborers it is 85 per cent. Then in the canal laborers, if we eliminate the "Zone Charity" cases drifting into the hospitals, we have almost no anemics below a working efficiency, and I think this good record is accounted for in that the Canal Commission feeds a number of their laborers from messes and kitchens, and in all cases the laborers are given easy access to the commissaries and are paid a sufficient wage to buy good food.

This comparison of people in the economic scale and the rise of hemoglobin with the improvement of the economic condition convinces me that food is the predominant factor in the etiology of all the tropical anemias, and that poverty with poor and coarse indigestible foods is nearer the index of the secondary anemias of the tropics than disease, although without disease we should probably have no anemia in spite of poor food. Yet the good condition of the canal laborer in whom 21 per cent. constantly harbor uncinarial infection and have at the same time intermittent attacks of malaria fever, goes far to show what can be done in the tropics by improving the economic status of the individual, while at the same time instituting sanitary methods to eliminate disease.

SPLENOMEGALY

In these secondary anemias there is more or less enlargement of the spleen, this enlargement amounting to from 3 to 5 cm. below the costal margin to a spleen filling the entire left hypochondrium and at times passing over into the right side as well. The enlargement of the spleen in these anemias is always attributed to previous attacks of neglected malaria fever, although these spleens now no longer bear any resemblance to the ordinary malarial spleens. Craig[4] has suggested the pos-

3. Ashford and Igaravidez: Report of Porto Rico Anemia Commission, Senate Doc. No. 808, pp, 12, 13, 17.

4. Craig: Malarial Fevers.

sibility of some as yet unknown infection to account for them, but from my studies I am reasonably certain that the older teaching that malaria is the cause is correct. But how the soft pulpy spleen of acute malaria eventually becomes the large dry fibrosed tumor mass of these anemias is the troublesome problem. The anemia could explain it if the anemia disclosed anything characteristic, for there is much in the pathologic appearance of these enlarged spleens resembling the occasional splenomegalies of primary pernicious anemia[5, 6] and splenic anemia[6, 7] (Banti's disease), but there is nothing characteristic in these anemias so far as the blood-picture or count shows. They are simply grave secondary anemias, and secondary anemia is not necessarily attended by an enlarged spleen, as is shown in the anemia of uncinariasis without complications. In such uncinariasis there is never any enlargement of the spleen. There may, however, be numerous incidental infections, now past and gone, that have aided in the ultimate splenic changes, for these splenomegalies are almost always seen in adult life and after a history of several attacks of "fever." "Fever," though, in this country is an all-inclusive term, and by "fever" these people designate all previous illnesses in which they were conscious of a rise of temperature no matter what the cause. Hence in these histories we deal with a train of indefinite illnesses, though it is reasonably certain that most of their previous illnesses were due to malaria fever.

In my Taboga work, as already pointed out, the only enlarged spleens seen were in adult males who gave a history of previous exposure to malarial infection and subsequent attacks of fever, while in the women and children with no history of illness except the anemia present, the spleen was never found enlarged. In a personal letter, Dr. E. H. Bannister of Merton Lodge, Bridgetown, Barbados, states that he never sees any enlarged spleens in Barbados except in people who have been away from the island or those from malarious countries as they pass through, for instance, Brazil.

Barbados and Taboga islands, so far as I know, are the only places in the tropics free from malaria; coincidently they are also free from natives with enlarged spleens, though not free from other tropical infections or secondary anemia. This being the case, there is no need to look further for some as yet unrecognized infection for the cause of splenic enlargement in the secondary anemias of the tropics. The malarial infection is certainly the primary cause of splenic enlargement in our secondary anemias, though various intercurrent infections may contribute toward the final changes as seen in these spleens.

CONCLUSIONS

The early writers on tropical diseases usually classed the severe secondary anemias under the head of "tropical anemia," except cases with enlarged spleen and a history of antecedent malaria fever, because of the idea that the tropical heat, etc., caused the anemia. Better observation has proved that the tropical heat does not cause an anemia, but that the anemia is secondary to several specific diseases; and later writers have attempted to class this anemia under the head of its particular cause, such as malaria cachexia, uncinariasis or ankylostomiasis, etc.

It would seem from my studies that these anemias are almost always the result of several causes combined, such as malaria, uncinariasis, and semistarvation. Therefore the term "tropical anemia" is a useful one and it should be revived to include all secondary anemias of the tropics, and malarial cachexia should be abandoned, for it usually directs our effort along the wrong lines of treatment. Moreover, uncomplicated malaria fever tends to establish a relative immunity and does not eventuate in a grave secondary anemia unless semistarvation is present.

Uncinariasis may cause a severe secondary anemia, but in most instances lack of good food is largely the contributing cause.

Malaria fever and uncinariasis in the same individual if untreated always result in a severe secondary anemia, and uncinariasis is the more responsible for the anemia when both infections are present in the same individual.

Food poor in quality and insufficient in amount is the most important contributing cause in tropical anemia, and this anemia is usually in direct proportion to the poverty of the people.

The enlargement of the spleen is primarily due to malarial infection, and the ultimate changes in the spleen are probably influenced by various intercurrent infections.

Regardless of a history of antecedent malaria, treatment in these tropical anemias should be directed toward the uncinaria no matter how few are present, and to improvement of the food-supply.

I wish to thank Col. W. C. Gorgas, Chief Sanitary Officer Isthmian Canal Commission, for permission to publish this paper.

Colon Hospital.

5. Cabot: Osler's Modern Medicine, iv, 619.
6. Phillips: Osler's Modern Medicine, iv, 758.
7. West: Allbutt's System of Medicine, v, 758.

EARLY RECOGNITION OF TUBERCULOSIS

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I know of no subject of such vast importance to both the physician and the laity as the early recognition of tuberculosis. When we consider the enormous loss of life, health and happiness due to tuberculosis—when we consider the fact that deaths from this disease are costing our country millions of dollars every year—when we consider the fact that fully 85 per cent. of those who die could be saved if their cases had been recognized early—and when we further consider that the burden of responsibility rests on the shoulders of the general practitioner, it behooves us to put in more of our time in the study of this disease, and especially to be able to recognize it in time to save our patients. To the family physician who makes an early diagnosis of pulmonary tuberculosis, and thus gives his patients a chance to get well, which he will do in 95 per cent. of his cases, we owe a debt of gratitude that can never be repaid. We are spending, annually, thousands of dollars to educate the laity along this line. We are sending out pamphlets, giving lectures and tuberculosis exhibits, and through these means are awakening an interest in the "great white plague" that cannot fail to reduce its mortality. But with all this, the family physician is the one who first sees the case, and unless he makes an early diagnosis, his patient must suffer the consequences.

All that we are doing to educate the laity is very important, but it is high time that a campaign of education was begun along this line for the family physician. Could we but awaken an interest in this subject in every physician in the United States, and make of

him an expert diagnostician of pulmonary tuberculosis, it would only be a question of a few years when we would rid the country of this disastrous disease.

In making an early diagnosis of tuberculosis, we must first realize that there is no combination of physical signs common to all cases. Percussion and auscultation may be entirely negative in the very early stages. The contour, shape and size of the chest may be anything but phthisical, and we may have only a very small group of symptoms to guide us in our diagnosis; yet, by a proper grouping of all symptoms, such as family history, personal history, predisposition, subjective symptoms and physical signs, we can usually make a diagnosis.

As a matter of diagnostic import, the family history is of importance only in that we must not forget that the theory of hereditary predisposition has been exploded. We must not forget that the patient's susceptibility to tuberculosis is not dependent on a family history of tuberculosis. What is of more importance to us is acquired predisposition; and by this I mean a susceptibility to the disease through certain causes that diminish individual resistance, such as overwork, either physical or mental, dissipation, financial reverses, despondency, etc.

Personal history takes into consideration the environment of the patient, in the home, socially and at work; the character of the work; personal hygiene; the hygiene of the home, shop or office; the contact with tuberculous subjects; the disposition of the sputum in such individuals; and also previous diseases.

The subjective symptoms of importance in incipient cases would be loss of weight and strength, disturbed nights, lack of ambition, ease of fatigue, capricious appetite, etc.

The physical signs in incipient tuberculosis are very few, and difficult to recognize. Inspection, palpation and percussion are invariably negative. The only physical signs we can rely on are obtained by auscultation. We must insist on an early physical examination. Every portion of the chest must be gone over carefully, both anteriorly and posteriorly. We must examine the patient while he is breathing naturally, during deep breathing, and while coughing. We must carefully note each and every irregular sound, no matter how slight. It is also essential to have the patient strip to the skin, and to examine both in the upright and reclining positions. Very often several physical examinations are necessary. A diagnosis should not be made until the physician is thoroughly satisfied.

The above constitutes, in an abbreviated form, the principal points in the diagnosis of incipient tuberculosis, and no physician can fail who makes a careful study of his cases and pays close attention to every little detail.

I might also mention that we have a few very important aids in the diagnosis of this disease. First and most important is the presence of the bacillus in the sputum, but we must not make a negative diagnosis just because we cannot find the germ. It clinches our diagnosis when we do find it, but is not demonstrable in all cases, and very rarely in incipient cases. We also have the tuberculin tests, of which the Moro test is the most reliable; then we have the *x*-ray examination. All of these aids may give us a negative result, and yet we may have a case of incipient tuberculosis; therefore, let us remember that while we must use every aid in making a diagnosis, yet a negative result does not always prove that tuberculosis is not present.

Let me make an earnest plea for a more thorough study of this disease and a more thorough and careful examination of every suspicious case. We owe it to our patients, and to the community at large, and to those who are devoting their time, energy and money to rid the United States of this most disastrous of all diseases —the "great white plague."

IODIN IN SMALL-POX

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It has long been known that tincture of iodin has valuable antiseptic properties, but it has never been extensively used for such purposes until recent years. When it was mentioned a short time ago as being useful in the preparation of the skin in emergency surgical cases, I was impressed with the idea that it would shorten the period of the pustular stage of small-pox. During the past year I have used 10 per cent. iodin and 90 per cent. glycerin. This is painted over the pustules two or three times a day. The results are the drying of the pustule, the absorption of the toxin, and arrest of destruction of the tissue; therefore the disfiguring due to the pock-marks has been prevented. The stay at the hospital has been shortened from twenty-five to thirty days, under the old treatment, to from eight to fifteen days. The pustules on the face may be opened with a sterile instrument and touched up with tincture of iodin. Frequently desquamation is completed in from four to six days, except a few pustules on the palms of the hands and the soles of the feet. These may be opened, touched with tincture of iodin, and the patient may then be discharged. Eighty-five patients have been treated by this method during the past year with 100 per cent. recoveries, and with an average stay in the hospital of twelve days.

3437 Mooney Avenue.

A PRACTICAL, EASY AND CHEAP METHOD OF INCUBATION

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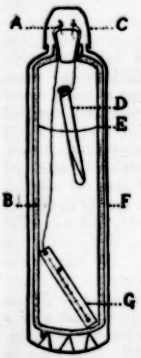
Ordinarily, the more or less troublesome gas incubators on the market are impracticable for the general run of practitioners who have not enough bacteriologic work to keep them going continuously; while the electrical contrivances, except in expert hands, give practically no results at all. It is for these reasons that I give this little sketch, thinking it may help others out of the dilemma in which I was before struck by the happy thought of using a vacuum bottle.

Although the gas incubators work well when once started, they require so much attention and work each time their occasional use is demanded that most physicians are discouraged from making any cultures at all or are obliged to send them to some central laboratory. In the latter case so much time is required for the return of a diagnosis that it is useless for clinical purposes in urgent cases. All this is apparent in the number of incubators unused or for sale by many of the most up-to-date members of the profession.

If one fills a pitcher half full of hot water, dilutes it with cold to a little above blood-heat (quickly tested by pouring some over the back of the hand, or with a thermometer) and then quickly transfers it to a vacuum bottle to keep it at or near the same temperature for a sufficient time to grow urgent cultures, such as diphtheria, much cheaper, easier and more practical results will be obtained than by the usual cumbersome methods.

A special thermometer may be passed through the cork of the bottle as in an ordinary incubator, or any cheap house thermometer may be unmounted and suspended with its scale in the water by a thread. Threads are used for suspension of thermometer and culture-tube so as not to interfere with the accurate closure of the bottle. A few pins stuck into the top of the cork serve for additional anchorage of the threads.



Schematic drawing of vacuum bottle used as an incubator. A indicates pins anchoring thermometer and test-tube; B, vacuum between mercurial surfaces; C, outer casing - cap; D, culture-tube; E, height of water; F, outer casing; G, thermometer.

Almost any of the vacuum bottles on the market will answer the purpose, providing the cork fits closely. It is necessary that the vacuum between the two mercurial surfaces be perfect and that the bottle be previously rinsed out with hot water. The loss of heat (10° F. in twenty-four hours) can be easily corrected, if one thinks it necessary, by adding a slight amount of hot water every twelve hours. It is also advisable to have the temperature at 100 F. at the beginning, in order to warm the air thoroughly in the culture-tube, and to have the usual rubber cap over the tube to keep moisture from the cotton plug and culture medium. This cap is generally found on all stock culture-tubes to prevent drying.

Since using the above method of incubation the small amount of work required and the results obtained have been very satisfactory, and I feel that its adoption will give a new impetus to cultural work. All vacuum bottles should be experimentally tried before use and any that cool more rapidly than 10 degrees in twenty-four hours are not serviceable.

1120 Main Street.

Therapeutics

MANAGEMENT OF NORMAL LABOR

"Go when you are sent for when the woman expects to be in labor," is one of the golden rules of obstetrics. It is just as important now as it was when it was spoken to his classes by Professor James W. McLane, of New York, over thirty years ago. Delay in answering the summons may mean increased danger for the patient, or the completion of delivery before the arrival of the physician, to his discomfort, and often to the detriment of the patient through lacerations due to precipitate labor or through excessive hemorrhage due to the absence of proper contraction of the uterus.

Inquiry is first made as to the time of the commencement of the pains, the frequency of their recurrence, their severity, whether there has been a copious watery discharge indicating rupture of the membranes, or whether there has been a discharge of blood, and whether the bowels have moved recently.

While the physician is sterilizing his hands and arms, the nurse should bathe the thighs and vulva of the patient in a warm antiseptic solution. Having lubricated the index and middle fingers of his right hand with some sterile lubricant, such as petrolatum, the physician inserts these fingers into the vagina and examines the cervix uteri to determine whether it is dilated, whether the pains affect the muscular fibers of the cervix, what part of the child is presenting, if the head is presenting, to determine if possible the position in which it lies, and whether any part of the placenta is attached to the lower segment of the uterus. Incidentally he learns also the condition of the perineum, whether it is rigid, dilatable or relaxed; of the vagina, whether it is moist or dry; of the pelvic walls, whether they are broad or narrow. If he is satisfied that the pains are not effecting any dilatation of the cervix and that they are not severe or frequent, he may leave the patient, to be summoned again when the pains increase in frequency or severity. If the cervix is not dilated to more than the size of a silver half dollar, if the pains are not severe and do not occur more than five or six times an hour, he may leave the patient for an hour, returning at the end of that time. He then makes another examination and notes whether any progress has been made in the dilatation of the cervix.

When the cervix has dilated to the size of a silver dollar, and the pains are coming on with considerable severity at intervals of five to ten minutes, he should not leave the patient. At this stage examinations should not be too frequent nor too protracted. The patient should be encouraged to remain out of bed and to walk about. When the pains come with severity and at intervals of from three to five minutes, the patient may be allowed to go to bed.

The bed should have been prepared by placing over the lower sheet, under which there is a rubber cloth, fifteen or twenty thicknesses of newspaper. Over this should be spread a sheet folded twice. The corners of this may be pinned through the sheet to the mattress, so that this improvised pad may be held in place and not pushed about during the efforts of the patient.

When complete dilatation of the cervix has taken place, if the membranes have not already ruptured, they may be ruptured by the physician, using either a sharp finger-nail or a blunt instrument like a probe, the rupture being effected during a pain and toward the edge of the cervix, so that the waters may not gush forth in so great a flood as to bring with them the umbilical cord causing a condition termed prolapse of the funis. As the labor advances the cervix should be pushed up over the head of the child and the folds of the walls of the vagina should be pushed upward, while the head advances. The perineum should be anointed with petrolatum or some unctuous substance so as to soften it and facilitate dilatation. As the head advances through the pelvis and rests on the perineum, effort should be made to avoid laceration of that part. It is necessary at this stage to expose the perineum so that its condition may be constantly watched. If, as indicated by the expulsion of blood from the edge of the perineum and consequent blanching of the tissues, a rupture seems imminent, the head should be held back during the progress of the pain, and the patient should be encouraged to open her mouth and to let out her breath. At the same time the head should be pressed forward under the pubic arch

and the part of the head resting on the perineum should be pushed backward so as to secure flexion of the head of the child on its body.

The question of chloroform is one which long before this stage has probably been raised by the patient. During the first stage, previous to complete dilatation of the cervix, chloroform should not be given unless the pains are very severe and the cervix is very rigid. In the second stage, during the expulsion of the head, it is frequently desirable to administer a moderate amount of chloroform in order that the delivery of the head may not occur too quickly and that the intolerable pains incidental thereto may be rendered more endurable for the patient. The promiscuous administration of large amounts of chloroform during any part of the first stage or the early part of the second stage should be condemned, not only because it is likely to prolong the labor, but also because it may involve damage to the kidneys, and undoubtedly increases the danger of postpartum hemorrhage. But at the termination of labor, when the head is passing over the perineum and the pains are frequent and severe, the administration of a moderate amount of chloroform to a healthy woman can do no harm and may be counted as one of the greatest blessings of the healing art.

The final delivery of the head may generally be best accomplished in the interval between two pains. The perineum is then somewhat relaxed, and the head being in the control of the hands of the physician, it may be manipulated through the vaginal opening with less danger of laceration of the perineum than when the powers of Nature accomplish that result without the final guidance of the physician.

After the head has been delivered, the physician should notice whether the cord is about the neck of the child, and if it is, he should take prompt measures to prevent a constriction of the child's neck by drawing on the cord, if possible slipping it over the child's head, or at least loosening it enough so that the shoulders of the child may pass through it as they are delivered.

The delivery of the shoulders is usually a simple matter, but during their exit from the vagina the perineum should be protected as during the passage of the head. The hand should be placed against the perineum, the radial side being at the edge of the perineum, and this should guide the shoulders upward toward the pubic arch so as to bring as little tension as possible on the edge of the perineum.

While the body of the child is being delivered, the left hand of the physician should be on the fundus of the uterus, and should grasp it so as to encourage contraction of that organ. The child should be laid on its side, near to the mother, but sufficiently removed from the discharge of blood and liquor amnii, so that it will not suck in these discharges.

When it is certain that the uterus is well contracted, attention should be given to the separation of the child from its mother. It is universally deemed wise, at the present time, not to cut the cord too quickly, but to wait from ten to thirty minutes, or until the pulsation in the cord ceases, before the cord is cut and tied. When the pulsation has ceased, or if it does not cease, after a time judged by the physician to be sufficient, the cord is tightly tied and cut with scissors. The baby is then given to the nurse to be laid in a warm place until she finds time to wash and dress it. Meanwhile the physician stays by the patient, at frequent intervals placing his hand on the fundus uteri, to be sure that it is firmly contracted.

It is at the present time recommended as good treatment to wait for from fifteen minutes to an hour before using much force in the delivery of the placenta. This sometimes is expelled from the vagina immediately after the birth of the child, but in most instances it is necessary to use some manipulation in order to bring it away. Should the patient have a recurrence of pains, like the labor pains, but of less severity, she should be urged to hold her breath as during the delivery of the child, and bear down, while the physician presses firmly on the fundus uteri with his left hand and makes gentle traction on the cord with his right hand. If this does not suffice to effect delivery of the placenta, after waiting a few minutes, the same course may be followed again, except that this time the fingers may be inserted into the vagina and the edge of the placenta, if it can be felt, may be seized and traction made gently on it. If by external manipulation and gentle traction on the cord or the placenta itself, the placenta is not delivered in half or three-quarters of an hour, it may be necessary for the physician, having sterilized his hand and arm afresh, and having lubricated the fingers and whole hand, to insert the hand into the vagina and uterus, the left hand pressing firmly on the fundus, and detach the placenta at such situations as it may be adherent to the interior of the uterus. This can generally be effected with patience without extreme difficulty.

Ergot should never be given to a pregnant woman during labor while the child or the placenta is within the uterus. After normal labor, in the case of a primipara, it is not necessary to give it unless there are evidences of a tendency to excessive hemorrhage. In a multipara it is wise to give a teaspoonful of a guaranteed fluid extract of ergot after the uterus has been completely emptied both of the child and of the placenta. If the patient has been anesthetized during delivery, the ergot should unquestionably be given in order to counteract the tendency to postpartum hemorrhage.

After delivery of the child and placenta have both been effected, the sheet and newspapers under the patient should be removed and a clean pad placed under her. She should then be washed in a warm antiseptic solution and a napkin placed over the vulva and a bandage placed over the lower part of the abdomen. This should reach down below the greater trochanter so that it will not slip up and become loose, in which situation and in which condition it will be of no benefit to the patient. She should then be allowed to drink a little water, milk or tea, and should be permitted to rest undisturbed for several hours.

The physician should not leave the patient for an hour after the child is delivered, and not even at that time if there are any symptoms to indicate impending trouble, especially if the action of the heart is rapid and weak, or if there is an unusual amount of hemorrhage. The pulse being normal, and there being no unusual amount of hemorrhage, the patient may be left at the end of that time.

The Invention of Spectacles.—Roger Bacon knew lenses and that they were useful for near visibn in the old. For optical purposes they appear to have been ground first about 1285 by a certain Salvino degli Armati, said to have died in 1317. A monk of Pisa, Alexander della Spina, who died in 1313, also has been accredited with the invention of spectacles and with the promotion of their use.—P. H. Dernehl in *Johns Hopkins Hosp. Bull.*

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[*For other information see second page following reading matter*]

SATURDAY, JANUARY 27, 1912

THE UNDERVALUED BANANA

The dictum that fruits should be eaten "in their season" finds its limitations as regards variety in the temperate zones at certain periods of the year. There is, however, one fruit which is readily available fresh in American markets at practically all seasons, although it grows best from November to April in its tropical or semitropical home. It is unfortunate that an article of diet which meets certain nutritive requirements so well and is so easily obtained at reasonable cost as the banana should be the subject of much misunderstanding among both physicians and laymen. For despite the fact that over forty million bunches are reported to have been brought to the United States last year, it is popularly stated in many quarters that the banana is difficult of digestion and may give rise to alimentary distress.

A closer consideration of the composition of the banana may serve to elucidate the situation. The fruit is brought to our northern markets green, and is ripened by artificial heat. This process can be hastened or delayed within certain limits according to the momentary demands of the retail trade. The color of the peel gives evidence of the degree of ripeness. The green banana contains, in the part exclusive of the skin, about 1.5 per cent. of protein and 20 to 25 per cent. of carbohydrate, almost entirely starch. In the ripe banana, with yellow-brown peel, the edible part contains somewhat less (16 to 19 per cent.) of carbohydrate; but that which remains is now almost entirely in the form of soluble sugars.[1] Broadly speaking, then, the ripe banana is about one-fifth sugar; the green, one-fifth starch. Most of the remainder of the edible pulp is water. Intermediate degrees of ripeness present starch and sugar in reciprocal proportions varying between the limits set above.

Inasmuch as bananas are commonly eaten uncooked, it is obvious that more or less raw starch will be ingested if the fruit is not ripe, i. e., if the skin has not begun to shrivel and darken. Raw starch may be singularly irritating to the alimentary tract of man and is at best poorly utilized, whether it be ingested in the form of uncooked potatoes, chestnuts, bananas or other native starchy foods.[2] No one would advise the use of uncooked potatoes; yet many people eschew a thoroughly ripe banana in the belief that this wholesome fruit is "rotten" when the skin becomes darkened, whereas they eagerly eat the yellow-green starch-bearing fruit at a stage of incomplete ripeness. "Green" bananas, like "green" apples, are unwholesome so long as the starch has not been adequately converted into sugars in the ripening processes. But the delicious and innocuous ripe banana should not be made to suffer in its dietetic reputation because of the ignorance of the consumer. Here is a chance for popular education.

Two other factors deserve notice in the defense of the maligned banana. One concerns the reprehensible habit of gulping down this fruit without adequate mastication. It is a pleasure to watch young children consume ripe bananas and note the physiologic correctness of their mode of eating. Unfortunate it is, indeed, that the shape of the banana permits it to be introduced into the mouth without the necessity of efficient comminution.

The second misfortune is one that involves the retailer of the banana. Although this fruit is sealed by Nature in practically germ-free and germ-proof packages, most fruit-dealers are wont to tear off bananas from the stems to which they are attached. One end of the fruit pulp is thus exposed to the air and decay soon sets in. Esthetic and hygienic considerations both demand that bananas should be cut (not torn) from the bunch and should remain completely enclosed in their natural covering until served.

Experience shows that the thoroughly ripe banana (or the less ripe fruit, after cooking) is undeserving of the unfavorable reputation which it has won in certain quarters. It forms a useful addition to the dietary, richer in nutrients and far more delicious than some of its more expensive competitors.

1. Bailey: Studies on the Banana, Jour. Biol. Chem., 1906, i, 355. Reich: Ztschr. f. Untersuch. d. Nahrungs- u. Genussmittel., 1911, xxii, 208

DIAPHORESIS AND NEPHRITIS

There is an idea still somewhat prevalent among medical men that the skin acts vicariously for the kidneys, compensating for a restricted secretory capacity of the latter by a heightened production of sweat with an increased excretion of characteristic urinary constituents, especially water, urea and salts. If this behavior of the skin were an established fact, the use of diaphoretic measures in diseases complicated with insufficient renal activity would be fully justified. The extent to which the skin may vicariously assume the eliminating function of the kidneys, however, is much less than is generally supposed. Accurate observations have repeatedly shown that patients afflicted with chronic kidney lesions, particularly in forms unattended with edema, as well as those accompanied with uremic symptoms, excrete no more nitrogenous waste products

2. Thomas: Die Banane als Volksnahrungsmittel, Rubner's Arch. f. Physiol., Supplement volume, 1911, p. 29.

or salt through the skin than do healthy individuals under comparable conditions of activity.

The reputed "urine-sweat," which has now and then been reported to accumulate on the skin of patients with chronic nephritis and to lead to a conspicuous frost-like deposit of urinary substances on its surface, is doubtless the result of an extreme situation. Such peculiar sweats, suggestive of urea and its companion products and at times observed prior to death or in extreme collapse, are scarcely comparable with the ordinary excretion through the skin. They are probably to be interpreted as the consequences of an extreme surcharging of the circulation with uneliminated metabolic waste products rather than as an expression of any compensatory overfunctioning of the cutaneous glands. In such cases the occasionally observed urinary odor of patients is said to be not confined to the skin, but to be noticeable in the secretions of other glands in the body as well. How little, after all, the skin accomplishes in the way of eliminating excretory materials is shown by the figures obtained by Loofs.[1] The average daily cutaneous output of individuals in bed amounted to 0.25 gram of nitrogen and 0.2 gram of sodium chlorid per day in the healthy and nephritic alike. Even under conditions of so-called "low diet" these amounts are without physiologic significance in relation to the total work of the kidneys.

It is interesting to note that diaphoresis was originally introduced into the therapy of renal disorders to reduce the hydremic plethora by increasing the water output in the form of sweat. With the growing recognition that the retention of water in such conditions may be occasioned by the presence of increased quantities of products awaiting elimination, attention was in turn centered on the removal of urinary components rather than water in the sweat "cures." We have here an illustration of the modification of a theory to justify the continuance of a time-honored therapeutic practice.

1. Loofs: Welche Mengen von Stickstoff, etc., werden durch die Haut von Nierenkranken ausgeschieden? Deutsch. Arch. f. klin. Med., 1911, cii, 563.

PRECOCIOUS CHILDREN

Accounts in history and in newspapers and magazines of the wonderful accomplishments of certain precocious children have caused much discussion as to whether present methods of education are correct in principle and do as much as possible for the child. Examples are cited of children who are said to have mastered reading, writing, spelling, arithmetic and grammar in infancy, and a little later had taken up geometry, astronomy, physics, chemistry, mechanics and even history and political economy; in some instances, several languages, ancient and modern, have been said to be among the acquirements of these infant prodigies. It is asserted that these results are attained by proper intensive methods and beginning at an early period in the life of the individual, and that such methods employed more universally would result in the saving of years of time in the education of the young.

M. V. O'Shea[1] is skeptical as to the desirability of this hothouse forcing of children in the educational line and also as to the substantial accomplishments of these precocious children. He has attempted to obtain from those close to some of these children precise and detailed accounts of just what they had accomplished in the various branches; but nothing but general and unsatisfactory statements have been secured. He asserts that there are no reliable data of a sufficiently detailed and specific character to enable one to determine exactly what kind of ability these children possess. He believes that the real accomplishments of some of these children have been overrated, and that, put to the test, they would be found wanting in ability to interpret and apply what they have learned, and therefore not really educated. Some children, for instance, seem to be able at a very early age to read the works of profound thinkers. Such children have simply gained a certain degree of familiarity with a peculiar kind of visual object, which is an extremely mechanical sort of thing to do, requiring no very high degree of mentality. One may be able to recognize words so as to be able to pronounce them, while one's experience is far from giving one the key to their contents, and thus enabling one to read in the true sense of the word. It is a simple matter of psychology that reading for content, instead of simply for verbal recognition, cannot go far beyond the individual's experience. No one would contend that a child with no experience outside of the nursery could read understandingly the Old Testament or Milton's "Paradise Lost," and this will apply to other branches of learning as well. In mathematics for example, O'Shea ascertained by experiment that many children could, without hesitation, recite the words in problems in arithmetic and geometry which they could not interpret in terms of experience. The child who is able to enter college at an unusually early age does not necessarily give evidence of remarkable intellectual power, for college entrance examinations are "mainly verbal, conventional and symbolic; they concern the tools of knowledge, not true knowledge itself."

The accomplishments of the much-talked-of precocious children, therefore, consist essentially of a more or less mechanical memorizing of symbols and not of a true comprehension of principles. O'Shea finds by test that certain children who are precocious in familiarity with literature in foreign languages, in mathematics, etc., are distinctly inferior to typical children of their age in their understanding of the realities and especially in effective reaction on the environment in making it over into new forms or patterns or directing the forces of Nature into new channels.

The education that produced these infant prodigies, then, offers no new principles, nor do the results, how-

1. Popular Misconceptions Concerning Precocity in Children, Science, Nov. 17, 1911, p. 666.

ever interesting, furnish a norm for imitation; they are merely, like forced monstrous blooms, the evidence of what can be accomplished by persistent and systematic direction of all the energies in one direction. O'Shea feels that the study of living beings and of natural objects and forces should furnish the principal material for a young child's education; not books but realities—not words and symbols but people and things—should constitute the earliest nourishment of the mind. The true test of education, after all, is the preparation which it furnishes for life; and it seems a sound principle that symbols ought not to be so early or so exclusively forced on the mind that they take the place of realities.

LIMITATIONS OF ORGANOTHERAPEUTICS

The glands of internal secretion are assuming more and more importance in medicine. Attention is now being especially directed to the milder forms of hypo- and hyperactivity of these glands; this was illustrated by Kocher's brilliant lecture two years ago, when, on the occasion of his receiving the Nobel prize, he discussed conditions of mild hypo- and hyperthyroidism, and, in this country, by Cushing's recent work on dyspituitarism.[1]

The specific treatment of conditions due to insufficiency of glands of internal secretion is, of course, organotherapeutics, but we are only beginning to be able to define the conditions in which this can be successfully employed. The ability to do this in a few cases is due to recent experimental and accurate clinical work, for it is a striking fact that although organotherapeutics is one of the oldest and most wide-spread forms of therapy, not a single result of value was obtained until empiricism was replaced by rationalism.

Among the *sine qua nons*—which have, however, often been overlooked—for successful employment of an organ as an organotherapeutic agent are: that the organ should form a specific internal secretion and that this be stored in the organ in such amounts and in such form that, when administered, it reaches the circulation in quantities sufficient to meet the urgent needs of the body.

Some conception of the urgency of the body's need for the internal secretion of an organ may be obtained from a study of the effects of the removal of the organ; after removal of the pancreas, for example, diabetic symptoms appear within a few hours; from this it may be concluded that the internal secretion of this gland is urgently needed for normal life. Severe and fatal symptoms do not develop for a few days after removal of the parathyroids and suprarenals; after removal of the thyroid or of the sex glands, symptoms, referable to the loss of internal secretions, may not appear for weeks or even months. From such observations it would appear, *a priori*, that cases of thyroid deficiency would offer a more promising field for organotherapeutics than would cases of parathyroid and suprarenal deficiency, and these in turn than cases of pancreas deficiency.

The prospects for success in organotherapeutics may also be considered from the standpoint of the ability of the gland to retain or store a portion of its internal secretion. Two instances will illustrate this point: It has been shown that the normal thyroid gland of man contains an amount of the active principle sufficient for the needs of the body for several weeks, whereas the suprarenals contain, at any one time, much less epinephrin than is secreted (and presumably needed) in the course of a single day.

Although it may be considered as proved that the pancreas secretes a hormone necessary for carbohydrate metabolism, all attempts to demonstrate its presence in the gland have failed.[2] This may be due to the inability of the gland to retain an appreciable amount of the internal secretion or possibly to its being present in an inactive form. The latter is the case in respect to secretin, the hormone which is the chief normal stimulus for the external secretion of the pancreas; the mucous membrane of the small intestine contains a considerable amount of this substance, but it is inactive until it is brought into contact with a dilute acid.

Another factor to be considered is the resistance of the internal secretion to chemical manipulation, to the action of the digestive juices, etc.: the activity of thyroid is not destroyed by the action of moderately strong acids and alkalies and the drug is readily absorbed from the alimentary tract; epinephrin, on the other hand, is a relatively unstable compound and is very imperfectly absorbed when administered by the mouth.

Thus there are already a number of criteria by which the probable value of an organ as an organotherapeutic agent may be judged. Viewed from this point of view, as well as from that of careful clinical trials, not many of the 250 or more preparations of organs of animals found on the market are creditable to modern medicine or to the manufacturers exploiting them. The lists of commercial preparations include such substances as liver, kidney, brain, spinal cord and salivary glands—organs for which there is no, or but very slight, evidence, that they form specific internal secretions—and various preparations of the "internal secretion" of the pancreas, although there is evidence that none of this secretion is retained, at least in an active form, in this gland.

There are other preparations of organs (testicles, mammary glands, and probably thymus) which are known to form internal secretions, or other substances having a pharmacologic action, but where it is doubtful whether they are efficient when given by the mouth; clinical reports of success in the use of such preparations should be received with great reserve. Skepticism is not only commendable but imperative in the case of results claimed to have been obtained with preparations which do not conform to such criteria as those enumerated.

1. THE JOURNAL A. M. A., Nov. 23, 1911, p. 1840.

2. THE JOURNAL A. M. A., Sept. 30, 1911, p. 1136.

FEDERAL REPORT ON INDUSTRIAL LEAD-POISONING

A bulletin containing three articles devoted to the subject of industrial lead-poisoning has just been issued by the Department of Commerce and Labor. The first, by Sir Thomas Oliver, is on industrial lead-poisoning in Europe; the second, by Dr. Alice Hamilton, on the white-lead industry in the United States, and the third, by Mr. John B. Andrews, on deaths from industrial lead-poisoning in New York, the two articles last mentioned being the first of a series of studies on this subject which the Department of Commerce and Labor proposes to make.

The report of Oliver on lead-poisoning in Great Britain, where compulsory notification of all cases is required, demonstrates triumphantly the value of governmental regulation of the lead trades. The information gathered in that country shows that in the past ten years there has been a reduction of 50 per cent. in the number of cases of lead-poisoning. Among the white-lead workers in the Newcastle-on-Tyne region (Oliver's own district) there were in 1901 ninety-six cases, and in 1910, three cases, with no reduction in the number employed. This improvement has been chiefly in the dusty trades which are carried on indoors, such as white-lead works, potteries, litho-transfers and paint factories. Lead-smelting and the painters' trades still seem to be very productive of lead-poisoning in Great Britain, and, as in the United States, the great danger to the painter seems to be the process of sandpapering which forces him to breathe white-lead dust. Other trades which are shown to be productive of lead-poisoning in Great Britain are in the United States fortunately negligible. Thus file-making is a hand industry there and a machine industry here. The making of cheap kitchen-ware with the addition of large quantities of lead to the tin coating is a bad lead trade in England, while American kitchen-ware is lead-free.

The report on the white-lead industry in the United States is not one to appeal to our pride as a progressive nation. It is admittedly incomplete as regards statistics of fatal and non-fatal cases, owing to the difficulty experienced in tracing them in a country which has no compulsory notification. Hospital records are found to be unsatisfactory because the patient's occupation is seldom given and information from physicians is found to be vague and general rather than specific. In spite of these handicaps, 388 cases were found to have occurred in this industry during the sixteen months between Jan. 1, 1910, and May 1, 1911. As the regular force of men employed is 1,600, this would mean about one case in every four men employed, which is in appalling contrast to Oliver's figures. Owing to the shifting character of the labor in this industry the above figures giving the number of men employed and the number of those poisoned are probably too low. A fair comparison, however, can be made between Oliver's statistics in the Newcastle-on-Tyne district, where three cases occurred in 1910 in a force of 1,320 men, and the figures given for an American factory that has adopted the English system of medical inspection, which show that sixty out of 170 men were under treatment for plumbism. Among 120 cases of lead-poisoning in American white-lead works, sixty-one men had sickened after an exposure of two months or less, showing the dusty conditions in the factories. The histories of sixteen fatal cases are given, one-half of which came from one factory. Nine men had encephalopathy, one fatal case coming on after seven months' work.

The report gives a picture very typical of industry in the United States, with conditions ranging from squalor in one place to magnificence in another, from intelligent care of the employees to ignorance and neglect almost incredible. Uniform legislative control is urged, not only for the sake of "compelling backward owners to adopt the same measures that their more progressive competitors have taken of their own free will, but also of educating the men in charge of the works."

Andrews' analysis of sixty cases of lead-poisoning in New York state during 1909 and 1910 shows that forty-five subjects handled paint, four were printers, three smelters, three white-lead workers, two storage-battery makers and one each employed in tinning, lead-pipe making and rubber works. The two last are very interesting from the point of view of industrial hygiene. The tinsmith died at the age of 18 years, after only one year's employment in what is looked on as a fairly safe lead trade, for he was handling solder kept at a low temperature. The rubber worker was making rubber toys and balls for children, the rubber having been treated, not with lead carbonate, but with the far less poisonous sulphate.

The Bureau of Labor has undertaken a difficult task in attempting to ascertain the extent of industrial plumbism in our lead trades, and it deserves the hearty cooperation of the members of the medical profession.

THE INCREASING USE OF CALCIUM HYPOCHLORITE IN WATER PURIFICATION

The use of calcium hypochlorite, as we have remarked before, is assuming great importance in water purification. In cases in which the water contains little suspended matter and yet in which sewage contamination is known or feared, the addition of bleach to the water is of great value. It is now sufficiently established by experimentation that the pathogenic germs likely to be contained in water or sewage are killed by 1 part per million, or even less (0.8 parts) of available chlorin. The graduation of the "dose" of hypochlorite is a simple matter; the expense is remarkably low—less than fifty cents per million gallons—and the practical difficulties of installing the disinfecting apparatus are trifling. In an emergency, portable disinfecting plants may be quickly shipped to a threatened point and put in opera-

tion within a few hours. The state boards of health of Minnesota[1] and Kansas[2] have in readiness ingenious forms of portable apparatus of this kind.[1] As has been pointed out by Phelps,[3] it should be the duty of every waterworks manager to keep on hand the necessary storage tanks and chemicals to enable him at short notice to disinfect the water-supply. No such occurrence should be possible as that lately reported at Philadelphia, where contaminated water was supplied to two wards of the city without any attempt at disinfection.

Several large cities in this country and in Canada have been using the hypochlorite treatment during the past year with quite uniformly favorable results. In Montreal the typhoid rate after the installation of the hypochlorite plant was 21, whereas the average rate for the four preceding years had been 44 and the range 33 to 68.[4] In Minneapolis, where the typhoid rate has been high for years only twenty deaths from this disease were reported for the first ten months of 1911 as compared with 159 during the corresponding period in 1910. In the month of April, 1910, twenty-four deaths from typhoid fever occurred; in April, 1911, only one death. The Minneapolis treatment of the city water with hypochlorite seems in view of such figures to have been a brilliant success. The city of Cleveland began the hypochlorite treatment in September, 1911. Although data are available for only a short period there seems to be evidence that in this case also the use of bleach has been followed by a diminution in the amount of typhoid fever. Whether or not the remarkable decrease of cases from fifty-five per month to five is wholly due to the hypochlorite treatment, there can be no doubt that the results so far reported are at least as favorable as in other cities. As shown by repeated bacterial examinations, the intestinal bacteria present in the Cleveland water-supply in past years seem to have been completely eliminated by the hypochlorite added.

On the score of public health no objection whatever can be raised to the addition of hypochlorite to drinking-water in the quantities commonly used. No injurious effect on the stomach or any other organ has been traced or can be predicated with any degree of probability. The treatment is wholly harmless.

Objections, however, have been raised on account of alleged disagreeable tastes or odors in the treated water. Aeration of the water by pouring from one vessel into another or simply allowing the water to stand freely exposed to the air quickly removes such odors. Balanced against the prevention of disease and the saving of life such objections will probably carry little weight with the average citizen.

A humorous touch is given to the matter by the imaginary grievances that find utterance, such as fancied injury to delicate fabrics, bleaching of the hair and the like. Before the chemical is added complaints that the tap water has an unpleasant taste or smell come from people who have read in the newspapers that the hypochlorite treatment is about to be instituted. It goes without saying that proper care should be exercised in adapting the dosage to the water to be treated and in assuring thorough mixing. The demonstrated advantages of hypochlorite disinfection certainly overbalance all known or fancied disadvantages.

1. Whittaker and Childs: Engineering News, April 6, 1911.
2. Hoad: Engineering News, Dec. 28, 1911.
3. Phelps, E. B.: The Chemical Disinfection of Water and Sewage, Jour. Am. Pub. Health Assn., 1911, 1, 618.
4. Engineering News, Nov. 9, 1911.

Current Comment

FRAUDULENT PROPRIETARIES

What is a fraudulent proprietary medicine? The answer is not difficult. A fraudulent medicine is one that is exploited under false assertions regarding either its composition, its therapeutic effects or both. In pre-propaganda days it was usual to find both methods of misrepresentation freely used. False formulas were circulated with an abandon that indicated the remoteness of any likelihood of detection, while for therapeutic claims no exaggeration was too gross and no lie too crude. As the exposures of the Council on Pharmacy and Chemistry and the propaganda carried on by THE JOURNAL brought physicians to a realization of the enormity of the fraud of which they had been unwitting victims, the methods of the dishonest proprietary manufacturer were changed. Formulas that deceived by the things left unsaid succeeded those that were frankly and openly false. With the advent of the Food and Drugs Act, which prohibited false statements on the labels, formulas were eliminated from the labels or were so worded as to be meaningless. In the matter of assertions as to therapeutic effects, there has been but little change. Possibly there has been a slight tendency to abandon the "lie direct" for the "lie with circumstance," but in general the claims are well-nigh as fraudulent to-day as they were ten years ago. The article on Phenalgin that appears elsewhere[1] in this issue illustrates the type of proprietary humbug that is foisted on the medical profession under claims that are both false and vicious.

A MARVELOUS MIXTURE

Take of acetanilid 57 parts, of sodium bicarbonate 29 parts, of ammonium carbonate 10 parts and mix. You will then have an "ammoniated coal-tar product" which is such a "judicious combination of ingredients" that it may be counted on "to secure maximum anodyne and analgesic effect." Not only this: although the mixture consists of more than half acetanilid, it has no "depressing effect." More marvelous still, it "is never followed by depression." While, under ordinary conditions, acetanilid given for any length of time results in serious changes in the blood, when it is combined in this miraculous mixture "its prolonged administration does not give rise to destructive blood metamorphosis." For this reason, it can be recommended for use,

1. The Propaganda for Reform department, page 293.

"especially in the anemic." To sum up, this combination of drugs produces the "safest and most dependable of analgesics." You do not believe all this? But possibly you will believe it if you can forget what the ingredients are and remember it only under the proprietary name. All of the assertions just quoted, and many more, are made in this year of miracles, 1912, by those who sell this mixture of acetanilid, sodium bicarbonate and ammonium carbonate under the trademarked name Phenalgin.[1] And a large proportion of a presumably scientific profession "fall for it" and a multitude of medical editors stand sponsor for it!

Q. E. D.

[1] The National League for Medical Freedom is opposed to the Owen bill, which would transfer the Bureau of Chemistry of the Department of Agriculture to the proposed Department of Health.

[2] Dr. C. S. Carr, the publicity agent for Peruna, is a member of the advisory board of the National League for Medical Freedom.

[3] In *Collier's*, January 20, Samuel Hopkins Adams says, speaking of Peruna: "The proprietor of a large wholesale drug house in the Middle West tells me: 'Peruna is nowhere. We used to get a carload or even two in a month—Now we hardly handle a carload a year.'"

[4] Who wouldn't want "freedom" from oversight by a bureau whose embarrassing insistence on facts cuts down one's business to one-twelfth or one twenty-fourth of what it used to be!

Quod erat demonstrandum.

TWO WAYS OF MEETING AN EMERGENCY

A short time ago it was reported that owing to the breaking of a Philadelphia water-main unfiltered river-water had been distributed for a time to two wards of the city. As the result, an outbreak of typhoid fever has appeared in the section supplied with the contaminated water. In a single week ninety-nine cases of the disease are reported from the two infected wards and only forty-eight cases in the other forty-five wards of the city! One deplorable feature of the epidemic is that the polluted water seems to have been distributed without any adequate warning by the responsible authorities. Such a blunder is without excuse. The lesson that deaths will follow the drinking of polluted water ought surely to have been well learned in Philadelphia. Why should citizens be supplied without warning with water known to contain typhoid germs any more than with water known to contain arsenic or any other poison? A different course was pursued in Lawrence, Kansas, early in January, when the danger of a water-shortage became imminent. Full publicity was given to the situation. The date when the river-water was to be turned into the main was duly announced and citizens were warned to boil the water. In addition hypochlorite treatment was instituted in accordance with directions furnished by the state board of health. In brief, apparently no precaution was omitted either to warn or to safeguard the inhabitants of Lawrence. It is high time that public officials recognized their responsibility in such matters. Too often in the past "emergency intakes" have been opened with no public warning and sewage-polluted water distributed to hundreds of unsuspecting householders. It need hardly be pointed out that times have changed, that the general public understands more clearly than formerly the reason for water-borne typhoid, and is likely to view less leniently gross dereliction of duty by those in authority. It is to be expected that the citizens of Philadelphia will attempt to fix the responsibility for the serious events of the past few weeks.

1. The Propaganda for Reform department, page 293.

THE DEATH-RATE IN THE CANAL ZONE

So many records have been broken in the Canal Zone, since Uncle Sam undertook to dig the big ditch, that we have become used to the sensation and no longer expect anything but remarkable doings. Whether moving dirt, building dams, draining swamps or preventing disease, the Canal Commission seems to have no thought in view but to make each day's work better than that of the day before. So we arise merely to put on record that the report of the Department of Sanitation for November, just received, shows that during that month, among 11,900 white men, women and children from the United States living in the Zone, there were two deaths from disease, one from malaria and one from cancer; there was also one premature birth. Including the latter, this is equal to an annual death-rate of 3.02 per thousand. Would any of our most advanced cities care to compete for first honors, as a health resort, with this erstwhile "pest-hole of the tropics"? Most of our cities consider themselves lucky if they can get their death-rate below 15 per thousand.

THE NEW YORK HERALD AND PROGRESSIVE MEDICINE

For several years the New York *Herald* has been taking a position in regard to medical matters that was inconsistent with the general policy on which that newspaper had built up an enviable reputation. The apparent antipathy of the *Herald* to the medical profession and, necessarily, to medicine, in the broad acceptation of the term, was so extreme as to lead to the expression of views and the promulgation of statements which were contrary to recognized and scientifically demonstrated facts. Since the New York *Herald* is one of the oldest and one of the most influential of our dailies, this position was regretted by all who were fighting for progressive, modern, preventive medicine. We read with extreme gratification, therefore, the announcement that the *Herald* will hereafter take a more enlightened position, and with this end in view has engaged Dr. James J. Walsh, of New York, as one of its consulting editorial staff. While no immediate radical change is to be expected, several items which have appeared here and there in the *Herald's* columns confirm the news of the change of policy above mentioned. It is certainly encouraging to know that the New York *Herald* will hereafter be on the side of scientific progress.

RESUSCITATION FROM ELECTRIC SHOCK

In 1894, the *Electrical World*, one of the leading electric journals of the country, printed and distributed free to electric plants, power houses and stations, a large chart giving instructions for first aid to persons burned or shocked by electricity. These charts have been widely used and have proved of great value. The demand for this chart continuing, the *Electrical World*, in 1910, took up the revision of the chart with a number of associations of electric men, notably the National Electric Light Association, the American Institute of Electrical Engineers, the Association of Edison Illuminating Companies, the National Museum of Safety and others. The unanimous opinion of all consulted was that reliable and authoritative information on this subject was greatly needed and that many lives could be saved by a better understanding of the subject. To this end, the National Electric Light Association was asked to undertake the organization of a commission, which would command the respect and attention of both the medical profession and the electric industry. Accordingly this association, through its president, Mr. John F. Gilchrist of Chicago, asked the American Medical Association to select such a commission. This request was taken up by the Council on Health and Public Instruction, which has recently completed a commission in every way meeting the requirements of the case. As chairman of this commission the Council has selected one of its own members, Dr. Walter B. Cannon, professor of physiology in Harvard Medical School. The Council also nominated, as its representatives, Dr. Yandell Henderson, professor of physiology of Yale Medical School, Dr. S. J. Meltzer of the Rockefeller Institute and Dr. George W. Crile of Cleveland. The National Electric Light Association nominated Dr. Edward A. Spitzka, professor of anatomy of Jefferson Medical College, and Mr. W. C. L. Eglin of the Philadelphia Electric Company and an ex-president of the association. The American Institute of Electrical Engineers nominated Professor Elihu Thomson of the General Electric Company of Lynn, Mass., and Professor Arthur E. Kennelly of Harvard University. Mr. W. D. Weaver, the editor of the *Electrical World*, was asked to become the ninth member of the commission and to serve as the secretary. The electric industry, the medical profession and the public are to be congratulated on the formation of this commission. The distinguished personnel of the commission insures the acceptance of its report as authoritative, both in this country and in Europe. The commission has already held a preliminary meeting and plans are now being made for it to take up its work systematically.

THE AMERICAN PHARMACEUTICAL ASSOCIATION JOURNAL

With the object of furnishing a more direct and speedy means of communication between the American Pharmaceutical Association and its members, the association has established a monthly journal which is to be its official organ. The first number has just appeared, and the association is to be congratulated on its quality and appearance. In this first number the object and policy of the journal is set forth by the editor, J. H. Beal, and Dr. Harvey W. Wiley discusses editorially the opportunity of American pharmacy. In addition there are articles concerning plants and drugs, a discussion of the assay of alkaloids and a number of other papers on pharmaceutical subjects. In a section on education and legislation, the educational work of the Council on Pharmacy and Chemistry of the American Medical Association is discussed. It is understood that it will be the policy of the new journal to give publicity to the work of the Council, something which only two drug journals — the *Druggists Circular* and the *American Pharmaceutical Journal*—have heretofore done. It is also understood that the journal will not accept "patent-medicine" advertisements. The first number contains about ninety pages of reading-matter, all of which should be interesting not only to the members of the association, but to the whole profession of pharmacy.

NUMBER OF INSANE IN INSTITUTIONS IN THE UNITED STATES

A special census of 372 institutions for the care of the insane was taken by the United States Census Bureau in 1910, and the number of insane persons in the institutions on January 1 of that year was found to be 187,454. The number admitted during 1910 was 60,603 and the number discharged was 53,880. A special census taken in 1904 showed the number in institutions to be 150,151 and the number of persons committed during that year was 49,622. In the six years from 1904 to 1910 there was an increase of 37,303, or 24.8 per cent. of the patients confined, and an increase of 10,981, or 22.1 per cent. of the number annually committed to such asylums. The number of insane in asylums per one hundred thousand of population in 1904 was 186.2; in 1910 it was 203.8. The annual commitments per one hundred thousand of population increased from 61.5 in 1904 to 65.9 in 1910, showing an increase of 4.4 in 1910. This, of course, includes only those committed to hospitals; and the increase may be due to an extension of this method of care for the insane and also to the increase in the number of institutions, which amounted to 13 per cent. Massachusetts had the largest number of insane patients in institutions on Jan. 1, 1910, amounting to 344.6 per one hundred thousand of population, while New York had 343.1 per one hundred thousand of population. These states are probably better provided with institutions than most other states and besides have patients from other states. The District of Columbia exceeds both of these states in the number of patients in institutions, for the District contains the government hospital, which draws patients from a much wider area than any of the states. The number of the insane in hospitals for the insane in the states south and west is much less than in the east. In the states west of the Mississippi River, owing to rapid increase in population largely from the eastern states, the number of insane is less because the population represents a class in which insanity is less prevalent; also provision for the care of insane in these states probably has not kept pace with the increase in population.

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Medical News

ALABAMA

Personal.—Dr. George Hogan, Birmingham, recently appointed physician to the state convict camp at Flat Top, has resigned. ——Dr. George H. Searcy has been appointed medical inspector of schools of Tuscaloosa.——Dr. Tucker H. Frazer, Mobile, has been appointed a member of the Alabama State Board of the American Red Cross.

Want Maneuver Camp.—At the annual meeting and banquet of the Calhoun County Medical Society in Anniston, January 2, a committee was appointed consisting of Drs. Henry M. Martin, Anniston; Abner N. Steele, Anniston; Thomas J. Brothers, Anniston; Mark J. Williams, Anniston, and Robert L. Hughes, Choccolocco, to prepare statistics on the general health of Calhoun County, to be presented to Congress with a view of securing the establishment in that county of an army maneuver camp.

ARKANSAS

Personal.—Dr. Russell G. Floyd, Eureka Springs, has reached Japan on a trip eastward around the world.——Dr. Bernard Asman, Louisville, Ky., formerly of Hot Springs, has been elected president of the Ozark Sanatorium, Hot Springs.——Dr. William H. Arrington, Crossett, was thrown from his buggy in a runaway accident and seriously injured recently.

Elections.—The following results of annual elections in county medical societies are announced: Faulkner County, at Conway, December 21, president, Dr. John E. McMahan, Kendall; vice-president, Dr. Isaac N. McCollum, Conway; secretary and treasurer, Dr. Cecil H. Dickerson, Conway.——Sebastian County, at Fort Smith, December 14, president, Dr. J. Homer Buckley; vice-president, Dr. Clark S. Wood; secretary, Dr. Erret C. Myers, and treasurer, Dr. Herbert Moulton, all of Fort Smith.——Benton County, at Rogers, December 13, president, Dr. Rufus S. Rice, Rogers; vice-president, Dr. Joseph T. Clegg, Siloam Springs, and secretary and treasurer, Dr. James A. Fergus, Rogers.——Pulaski County, at Little Rock, December 11, president, Dr. John G. Watkins; vice-president, Dr. James L. Dibrell; secretary, Dr. John B. Dooley, and treasurer, Dr. William R. Bathurst, all of Little Rock.——Phillips County, at Helena, December 5, president, Dr. William C. King, Helena; vice-president, Dr. Herbert M. Thompson, Marvel, and secretary and treasurer, Dr. Robert Orr, Helena.

COLORADO

Food Under Glass Covers.—The pure food inspector has required that all grocers doing business in the city shall keep under glass covers all food not otherwise properly protected.

State Hospital Report.—The annual report of the State Hospital for Insane, Pueblo, shows that the institution has a population of 1,150; 689 men and 461 women. The average annual cost per capita was $141.36. Of the 186 patients admitted during the year 134 were natives of the United States.

Eliminates Tuberculosis from Literature.—At the annual meeting of the Colorado Association for the Prevention and Control of Tuberculosis it was voted to omit the word "tuberculosis" from the literature of the association and to substitute therefor the words "contagions and infections." During 1911 the association expended $5,016. Dr. Sherman G. Bonney, Denver, is president of the association, vice Dr. George Walker Holden, Denver, resigned.

Personal.—In recognition of the work of Dr. Charles A. Bundsen, Denver, in connection with the establishment of the Swedish National Consumptive Sanatorium, the King of Sweden has made Dr. Bundsen a knight of the Order of Vasa. ——Dr. Edward Delehanty has been elected president; Dr. Leonard Freeman, vice-president, and Dr. William C. Bane, secretary of St. Joseph's Hospital, Denver.——Dr. Patrick V. Carlin, Denver, has recovered from his recent illness and resumed practice.——Dr. Horatio E. Abrahams, Trinidad, has been elected president and Dr. James G. Espey, secretary, Trinidad, of the Las Animas County Medical Society.

Medical Sermons.—The pastor of Unity Church, Denver, has made arrangements whereby physicians of the city will occupy the pulpit on Sunday evenings and give a series of plain talks on health and sanitation to his congregation. The first lecture was given by Dr. Edward Jackson, January 7, on "Choosing a Physician." Dr. Howell T. Pershing spoke next on "Common Sense in Medicine"; Dr. John W. Amesse on "The Conquest of the Tropics," and the succeeding speakers and topics are: Dr. William C. Mitchell on "Great Benefits of Bacteriologic Discoveries"; Dr. Josiah N. Hall on "Modern Diagnosis"; Dr. Charles S. Elder on "Mind and Body," and Dr. Henry Denison on "Internal Secretions."

New Dispensary.—A free city medical dispensary was opened in Denver, January 1, in Euclid Hall. The dispensary is open day and night, and in addition to the regular staff, the greater part of the physicians of Denver stand ready to give their assistance and help when called for.

KANSAS

Personal.—Dr. Oliver J. Taylor, Wichita, has gone to Mexico for the rest of the winter.——Dr. James W. May, Kansas City, has been elected editor of the official organ of the Kansas Medical Society.

Club Room for Medical Society.—A club room is being arranged in the Butts Building, Wichita, for the use of the members of the Sedgwick County Medical Society. The room is 20 by 40 and will be used for the weekly meetings of the society.

Society Elections.—Douglas County Medical Society met at Lawrence, January 9, and elected Dr. Samuel T. Gillespie, president; Dr. Edward Bumgardner, vice-president; and reelected Dr. Leon Matassarin, secretary, and Dr. Eugene Smith, treasurer, all of Lawrence.——Saline County Medical Society, at its meeting in Salina, elected Dr. John W. Neptune, president; Dr. Oman R. Brittain, vice-president; Dr. Oliver D. Walker, secretary, and Dr. Carroll D. Armstrong, treasurer, all of Salina. ——Cherokee County Medical Society has elected Dr. Claude Lowdermilk, Galena, president; Dr. William N. Johnson, Columbus, vice-president; Dr. Albert A. Shelly, Galena, secretary and treasurer.——Reno County Medical Society at its meeting in Hutchinson, elected Dr. Clemens Klippel, president; Dr. Hunter J. Duvall, vice-president, and reelected Dr. William F. Schoor, secretary-treasurer, all of Hutchinson.

KENTUCKY

Four for One.—The city council of Lexington has adopted an ordinance abolishing the office of city physician and authorizing the mayor to appoint four charity physicians in his stead.

Losses by Fire.—The sanatorium of Dr. O. Raymond Minor, Louisville, was injured by fire to the extent of about $15,000, January 12.——The house and out-buildings on the farm of Dr. Moreau S. Browne, Winchester, were destroyed by fire, January 6.——The office of Dr. M. Beverly Berry, Maceo, was burned January 14, with a loss of about $1,500.

New Health Board Officers.—At the annual meeting of the State Board of Health held in Frankfort, January 10, Dr. John G. South, Frankfort, was elected president of the board; Dr. Joseph N. McCormack, Bowling Green, secretary (this being his thirty-third year in that position), and Dr. Arthur T. McCormack, Bowling Green, assistant secretary and health inspector.

Auditorium for Medical Society.—At the January 8 meeting of the Jefferson County Medical Society it was announced that the commission in charge of the new municipal hospital for Louisville, which is to cost a million dollars, had agreed to erect an auditorium to be used as a meeting place for the society. The announcement was also made that an endowment had been secured for the Jefferson County Medical Library.

Personal.—The mayor of Lexington has appointed Drs. N. Lewis Bosworth and Maurice Davis as members of the city board of health.——Dr. Clarence P. Burnett, health officer of Paducah, has volunteered to take charge of the bacteriologic laboratory, when established at Riverside Hospital.——Dr. Gils. E. Townsend, Bowling Green, has been elected president of the board of health of Bowling Green and Dr. Benjamin S. Rutherford, Bowling Green, health officer.——Dr. Amos G. Browning, an aged practitioner of Maysville, was assaulted and robbed in his office, January 8.——Dr. Samuel S. Watkins, Owensboro, was thrown from a buggy near that place, January 5, dislocating his knee.——Dr. George B. Spencer has been elected city physician of Carlisle.

Proposed Medical Legislation.—On "Bill Day" in the Kentucky Legislature the following bills of interest to the medical profession were introduced:

H. B. 3 and 93.—Each an act to repeal an act to establish bureau of vital statistics.

H. B. 8.—Act to regulate practice of veterinary medicine, surgery and dentistry, to establish state board of veterinary medical examiners and provide penalties for violating provisions thereof.

H. B. 28.—Act to repeal an act entitled "An act to establish a bureau of vital statistics," and to provide for immediate registration of all births and deaths.

H. B. 50.—Act providing for hospital board for management and control of city hospitals in cities of the first class.

H. B. 74.—Act to amend Section 1759 of Kentucky statutes, relating to number, qualifications, appointment and duties of state board of health, giving seven members of the board appointed by the governor the right to name the eighth member, who shall serve as secretary, taking that appointment out of the governor's hands.

H. B. 95.—Act relating to practice of dentistry.

S. B. 41.—Act to amend the law regulating practice of denistry in this state, by preventing alleged dentists from operating under any name except their own.

New Officers for County Societies.—The following results of elections in county societies are announced: Jefferson County, at Louisville, December 27, president, Dr. Edward Speidel; vice-presidents, Drs. Herbert Bronner and Elmer L. Henderson; secretary, Dr. A. Chenoweth L. Perceful; treasurer, Dr. Clarence H. Harris; executive committee, Drs. John J. Moren, Challon G. Forsee and Walter F. Boggess, and judicial council, Drs. Frank T. Fort and Harry A. Davidson, all of Louisville.——McCracken County, at Paducah, December 27, president, Dr. Vernon Blythe; and reelected vice-president, Dr. William H. Parsons; secretary, Dr. Delia Caldwell, and treasurer, Dr. Edward B. Willingham, all of Paducah.——Scott County, at Georgetown, December 27, president, Dr. Henry V. Johnson; vice-president, Dr. John E. Pack, and secretary and treasurer, Dr. E. Callister Barlow, all of Georgetown.——Christian County, at Hopkinsville, December 19, president, Dr. Joe L. Barker, Pembroke; vice-president, Dr. Samuel H. Williams, Crofton, and secretary and treasurer, Dr. William S. Sandbach, Casky.——Daviess County, at Owensboro, December 19, president, Dr. William E. Irvin, Owensboro; vice-president, Dr. Benjamin F. Tichenor, Pleasant Ridge, and secretary and treasurer, Dr. John J. Rodman, Owensboro.——Nicholas County, at Carlisle, December 18, president, Dr. J. Cray Martin, Carlisle; vice-president, Dr. Handsford H. Buntin, Bramblett, and secretary, Dr. George B. Spencer, Carlisle.——Fayette County, at Lexington, December 12, president, Dr. Claude W. Trapp; vice-president, Dr. Josephine D. Hunt; secretary, Dr. Lee C. Redmon, and treasurer, Dr. Benjamin L. Coleman, all of Lexington.——Henderson County, at Henderson, December 12, president, Dr. James W. Cooper, Smith Mills; vice-president, Dr. William V. Neal, Henderson, and secretary-treasurer, Dr. Peyton Ligon, Henderson.——Louisville Clinical Society, president, Dr. William A. Jenkins; vice-president, Dr. Henry J. Farbach (reelected), and treasurer, Dr. A. David Willmoth.

MARYLAND

New Officers for County Societies.—At the annual meeting of the Anne Arundel County Medical Society held in Annapolis, January 9, Dr. Thomas H. Brayshaw, Glenburnie, was elected president; Dr. Jesse O. Purvis, Annapolis, vice-president; Dr. Louis B. Henkle, Jr., Annapolis, secretary, and Dr. Frank H. Thompson, Annapolis, treasurer.——Howard County Medical Society, at its annual meeting in Ellicott City, January 13, elected Dr. Frank O. Miller, president; Dr. William C. Stone, vice-president, and Dr. Henry D. Causey, secretary and treasurer, all of Ellicott City.

Personal.—Dr. Edward E. Lamkin, Nanticoke, whose right forearm was fractured in a runaway accident November 2, is recovering at the University Hospital, after an operation for wiring of the ends of the fractured bones which had not properly united.——Dr. Joseph A. Thompson, Hyattsville, who has been seriously ill, is reported to be convalescent.——Dr. Thomas H. Brayshaw, Glenburnie, has been appointed a member of the State Lunacy Commission.——Dr. Daniel Hopkins, Havre de Grace, has been appointed school commissioner of Carroll County.——Dr. Brice M. Goldsborough, Cambridge, who has been a patient at the private sanatorium of Dr. Howard A. Kelly, Baltimore, has left for Florida.

Baltimore

Personal.—Dr. Frederick H. Vinup has succeeded Dr. Robert A. Warner as health warden for the Eighteenth Ward.——Dr. Harry Adler has been elected president of the Hebrew Hospital.——Dr. Adolph Guttmacher has been elected president of the Jewish Home for Consumptives.

Testimonial Dinner to Dr. Finney.—Friends of Dr. John M. T. Finney are making arrangements for a testimonial dinner to be given February 17 at the Belvidere Hotel, as an expression of the gratification of his professional brethren, regarding his desire to remain with them. It is proposed also to create a permanent fund to be known as the John M. T. Finney fund for the advancement of surgery, the income of which shall be applied by the Medical and Chirurgical Faculty of Maryland to the securing of lectures, the purchase of books and the provision of such other means as will advance surgery.

Foreign Physicians in Baltimore.—Dr. W. Johannsen of the University of Copenhagen lectured before the Scientific Association of Johns Hopkins University on "Heredity."——Dr. H. B. Devine, Melbourne, Australia, is spending several weeks in Baltimore, attending clinics and visiting hospitals.

Health Conferences.—A series of health conferences are to be held in Baltimore next month, which will be participated in by the physicians of the District of Columbia and Maryland. Among the speakers are Dr. Abraham Jacobi, New York City, president-elect of the American Medical Association; Colonel William C. Gorgas, M. C. U. S. Army; United States Senator Owen, of Oklahoma, and Mr. Samuel Hopkins Adams.

Report of Eudowood.—The annual report of Eudowood Sanatorium for Consumptives shows that there were more patients in the institution in 1911 than in the previous year. In all three departments of the sanatorium there were 317 patients: from the first, the sanatorium department, 127 patients were discharged, of whom sixty-five were much improved in health, with an average gain of 10 pounds in weight; from the second department, the hospital for advanced cases, 110 patients were discharged, of whom sixty-two showed satisfactory progress, and in the third department, the farm colony, twenty-five left during the year and all retained their health after leaving. The farm paid a profit of $2,000 for the year and supplied the institution with vegetables, small fruits, etc., including 14,930 gallons of milk and 2,184 dozen eggs.

NEW YORK

Cold Storage Law Upheld.—On December 21 the Court of Special Sessions handed down an important decision regarding the constitutionality of the Brennan Cold Storage Law, the enforcement of which is in the hands of the state department. The Greenwich Cold Storage Company was charged with receiving foodstuffs on July 12 and failing to mark either the packages or their contents according to the requirements of the law. The plea of the defendants was that the law was unconstitutional. In summing up the court said: "None of the predicated grounds of unconstitutionality are herein applicable. There has been no invasion of the rights of the defendant or of others similarly situated; no deprivation of property; no lien for storage compensation in any wise has been affected; no noxious discriminations between articles of food is the result, and since June 15 the obligation of no contract has been and could not have been impaired." The Greenwich Storage Company was fined $400. Now that the law has been declared constitutional, other complaints which have been held up will be pushed.

New York City

Will Open New Milk Stations.—Health Commissioner Lederle has announced that twenty-eight new milk stations will be opened and ready to dispense milk by February 1. There are at present twenty-seven stations in operation; these together with the new ones will make a total of fifty-five which the Health Department will operate.

Finances of Academy of Medicine.—The annual report of the finance committee of the New York Academy of Medicine shows that thus far $110,000 has been raised by subscription from about one-fourth of the membership of the academy, to pay for the real estate purchased as a site for the proposed enlarged building. The academy hopes to raise as much again and to pay for the site in full before appealing to the public for funds with which to complete the building.

Innovation at Mount Sinai Hospital.—At the recent meeting of the directors of Mount Sinai Hospital it was decided to install refrigerating devices to cool certain wards in the summer months. The idea has been tested in the Army hospitals and in the Philippines in the treatment of tropical diseases, but it is believed to be a new idea in connection with general hospital work. It is believed that the plan will help in the treatment of intestinal and cardiac diseases. As the work is experimental only small wards will be cooled.

To Isolate Trachoma Pupils.—Dr. William H. Park, director of the Health Department research laboratories has initiated a plan for isolating in groups children suffering from trachoma. A room is to be set apart for those affected with this disease apart from the public school building if possible. School

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No. 21, in the midst of a population made up of those who have been in this country but a short time, has been selected for the purpose of trying this plan. A clinic will also be opened at this school for which the Health Department will furnish an ophthalmologist. It is acknowledged that thus far the health department has not been as successful in dealing with the trachoma problem as might be hoped.

Local Societies Hold Meetings.—At the annual meeting of the Medical Association of the Greater City of New York, January 15, the following officers were elected: president, Dr. Reynold Webb Wilcox; vice-president, Dr. Ransford E. Van Gieson, Brooklyn; corresponding secretary, Dr. Frank C. Raynor, Brooklyn; treasurer, Dr. A. Ernest Gallant; chairman for the Borough of the Bronx, Dr. Nathan B. Van Etten; chairman for the Borough of Brooklyn, Dr. Robert E. Coughlin, Brooklyn, and chairman for the Borough of Queens, L. Howard Moss, Richmond Hill.——The New York Neurological Society has elected the following officers for the following year: president, Dr. L. Pierce Clark; vice-presidents, Drs. Smith Ely Jelliffe and Dr. Edward W. Scripture; corresponding secretary, Dr. James Ramsey Hunt; recording secretary and treasurer, Dr. Edwin G. Zabriskie.

Overcrowded Hospitals.—The State Board of Charities, in making its report after inspection of public and private hospitals in this city, says that for the year ended September 30, 1911, there were 88,085 patients cared for and that 1,669,766 days of treatment were given in public institutions. The greatest amount of congestion was found in the Metropolitan Hospital, the Kings County Hospital, the City Hospital, the Cumberland Street Hospital and Bellevue Hospital in which alone there were over 800 beds in excess of the normal capacity; in addition to this, cots and mattresses were placed on the floor between beds at times to receive the large number of patients cared for. The report shows that additional hospital buildings with a capacity of more than 1,200 beds are needed immediately and that in view of the constantly increasing demands, provision should be made for a much larger number.

Post-Graduate Opens New Building.—The new building and laboratories of the Post-Graduate Medical School and Hospital, at Twentieth Street and Second Avenue, were opened on January 11. The new building adjoins the old one and contains 480 rooms, or 130 more than the old building contains. The cost of this building was $1,500,000. On January 11, members of the hospital staff and their guests had a dinner at Delmonico's in celebration of the opening of the new building. Dr. George N. Miller presided. Among the speakers were Dr. Samuel W. Lambert, dean of the College of Physicians and Surgeons of Columbia University; Surgeon-General G. H. Torney, who spoke of the prevention of disease as necessary to mobility in the military service; Dr. Abraham Jacobi who, in the course of his talk, took a dig at Christian Science and compared the recent orders of President Taft permitting the practice of this cult in the Canal Zone to the opening of Pandora's box. "When our father in Washington, D. C., means to bless his children in the Panama zone, he opens the box of Pandora called Christian Science—Finley, Lazear, Agramonte, Reed, Carroll and Gorgas notwithstanding—and allows equal standing and facilities and justification, to you and to the quacks alike."

Museum of Safety Awards Medals.—At its annual exercises, January 18, the American Museum of Safety presented three gold medals for the greatest achievements in the last year of safeguarding life and limb in American industries and promoting safety and sanitation in daily and industrial life. The first medal was awarded to the Norton Company of Worcester, Mass., for safety devices in its manufacture of grinding machinery and emery wheels. It was given by the *Scientific American*. The second gold medal, presented by the Traveler's Insurance Company of Hartford, Conn., for the employer who did most for the protection of the lives and limbs of his workmen by means of safety devices for dangerous machines and processes, was awarded to the Pennsylvania Railroad. The third gold medal, presented by Dr. Louis Livingston Seaman for progress and achievement in the promotion of hygiene and sanitation, and the mitigation of occupational diseases, was awarded to Dr. Alvah H. Doty, who in the words of Prof. F. R. Hutton who made the presentation, "has been the watchful Cerberus at the door of the Port of New York, guarding the nation's health. It is awarded to him as the man who has achieved more than any other in securing the public health and preventing disease and providing safety for us, our industries, our homes, our children, and all we hold most dear."

NORTH CAROLINA

Will Establish Medical Library.—The New Hanover County Medical Society has decided to establish a medical library at Wilmington.

Society Elections.—The Fifth District Medical Society, at its annual meeting in Fayetteville, January 9, elected Dr. James Vance McGangan, Fayetteville, president, and reelected Dr. Arthur B. Croom, Maxton, and Dr. Joseph W. Halford, Chalybeate Springs, secretary and treasurer, respectively. The vice-presidents of the society are the presidents of the component county societies.——Wilson County Medical Association, at its meeting in Wilson, January 4, elected Dr. John S. Harrison, Elm City, president; Dr. Wade H. Anderson, vice-president, and Dr. Henry B. West, Wilson, secretary and treasurer.

Personal.—Dr. Joseph R. Shull, Shelby, has removed to Henrietta.——Dr. Robert L. Gibbon has been appointed a member of the visiting surgical staff of the Charlotte Sanitarium.——Dr. Marvin Wells, Mebane, has removed to Cliffside and has purchased the practice of Dr. Baxter M. Haynes, who has removed to Spartanburg, S. C.——Dr. Harlan Shoemaker has resigned as surgeon to the Shelby Hospital and has located in Jersey City, N. J.——Dr. John Berry of Orange County has been appointed deputy director of the South Mountain Sanatorium for Tuberculosis, Mount Alto, Penn. ——Dr. William D. Crocker, Lucama, was shot and seriously wounded during a quarrel recently.

OHIO

Medical Corps Enlarged.—Under an order of recent issue, the strength of the medical corps of the Ohio National Guard will be increased about sixty, making the full strength of the medical corps and hospital corps 335 officers and men. This conforms to the standard of the United States Army.

State Board Election.—The State Medical Board reorganized at Columbus, January 10, electing Dr. James A. Duncan, Toledo, president; Dr. T. Addison McCann, Dayton, vice-president, and reelecting Dr. George H. Matson, Columbus, secretary, and Dr. Sylvester M. Sherman, Columbus, treasurer.

Medical Library Established.—The Hamilton Medical Library Association has been organized by physicians of the city; subscriptions have been made to fifteen medical periodicals, and Dr. Edward S. Stevens, Lebanon, has presented the library with the medical library of his father. The following officers have been elected: president, Dr. Albert C. Carney; vice-president, Dr. Corliss R. Keller, and secretary-treasurer, Dr. Louis H. Frechtling.

The Afflicted.—Dr. Dempsey L. Travis, police surgeon of Cleveland, is ill with pneumonia at Lakeside Hospital.——Dr. Elliott D. Moore, New Philadelphia, sustained painful scalp wounds in a runaway accident, January 14.——Dr. Jacob F. Marchand, Canton, was painfully injured in a collision between his carriage and an automobile, January 1.——Dr. William E. Wheatley, Lorain, who has been seriously ill with pneumonia, is convalescent.

Green Crosses for Physicians.—At a recent meeting of the Mahoney County Medical Association, the green cross was adopted as the mark for automobiles and other vehicles used by physicians. A committee was also appointed to call for the enactment of a tenement house law with a view to the betterment of sanitary conditions in tenements in Youngstown. The committee is composed of Drs. Howard B. Hills, John J. Thomas, Harmon E. Blott, John H. Bloom and John S. Zimmerman, all of Youngstown.

More Money for Medical Education.—It is announced that Western Reserve University has raised the sum of $750,000 which was the condition fixed by John D. Rockefeller for his offer of an additional $250,000. The total of $1,000,000 raised in this manner is for additional endowment for the Medical School. Besides the gift from Mr. Rockefeller, $250,000, as previously announced, was given by Mr. H. M. Hanna; there were two other gifts of $100,000, one of $50,000, three of $30,000; two of $25,000 and several gifts ranging from $5,000 to $1,000. With the additional income from this donation it is planned to further develop the medical school and particularly along the line of clinical teaching.

Medical Teachers Hold Meeting.—The annual meeting of the Ohio State Medical Teachers' Association was held in Columbus, December 26. The chief discussions were on "Autopsies as an Aid in Teaching Special Pathology"; "The Value of Didactic Teaching"; "The Relation of Physiology to Clinical Medicine"; "Some Principles of Organization to Secure Practical Results in Anatomic Teaching"; "Sectarians in Public

Hospitals," and "The Relation of Medical Colleges Toward Each Other, and Medical Education in General." Dr. John K. Scudder, Cincinnati, was elected president; Dr. Lester E. Seaman, Cleveland, vice-president; Dr. Verne A. Dodd, Columbus, secretary; Dr. Charles McGavran, Columbus, treasurer, and Drs. H. Kennon Dunham, Cincinnati; William E. Mosely, Toledo, and John J. F. C. Waite, Cleveland, executive committee.

New Officers.—At the annual meeting of the Eighth District Medical Society held in Cambridge, Dr. Stephen A. Cunningham, Marietta, was elected president and Dr. John R. McDowell, Zanesville, secretary.——At the annual meeting and banquet of the Dayton Academy of Medicine held January 12, Dr. Ralph A. Bunn was elected president; Dr. Claude N. Chrisman, vice-president; Dr. Burch C. West, treasurer, and Dr. J. Grant Marthens, secretary (reelected).——Hempstead Medical Society met January 8 and elected Dr. Charles W. Wendelken, president; Dr. William W. Smith, vice-president; Dr. Samuel P. Fetter, secretary, and Dr. Sample B. McKerrihan, all of Portsmouth, treasurer.——At the annual meeting of the Columbus Academy of Medicine, Dr. Yeatman Wardlow was elected president; Dr. Albert Cooper, vice-president, and Dr. Verne A. Dodd, secretary-treasurer.

Personal.—Dr. and Mrs. Orlando T. Maynard, Elyria, start for the Mediterranean, February 1.——Dr. Ermine H. Smallwood, Westerville, has been appointed physician at the Ohio State Sanatorium for Tuberculosis.——Dr. Webster Smith has been reelected chief and Dr. Alonzo H. Dunham secretary of the regular medical staff of the Miami Valley Hospital, Dayton.——Dr. Albert W. Binckley, Columbus, has been appointed chief medical examiner of the State Liability Board of Award.——Dr. and Mrs. William B. Van Note, Lima, have gone to Florida for the winter.——Drs. Perley H. Kilbourne, Arthur O. Peters, William B. Bryant, Charles C. McLean, Clement D. Smith, David B. Bussdicker and Lloyd H. Cox, all of Dayton, have been appointed auxiliaries to the medical committee of the Dayton Tuberculosis Society.——Dr. John W. Clemmer, health officer of Columbus, has resigned.——Dr. Clarence D. Kurtz has been appointed local surgeon of the Baltimore and Ohio Railroad at New Philadelphia, vice Dr. Byron C. Hendershott, deceased.

PENNSYLVANIA

A New Year's Greeting.—The New Year greeting sent out by Dr. Samuel G. Dixon is so good that we here reproduce it: "The varied industries on which we depend for our comforts, the wealth which enables us to enjoy them and the arts of civilization which adorn and diversify our lives, are but the fruitage of the tree whose root is health. This blessing I wish you."

Personal.—At the annual meeting of the Lehigh County Medical Society, January 9, loving-cups were presented to the four oldest members of the society: Drs. Aaron S. Miller, Saegersville; Frederick C. Seiberling, Allentown; Henry H. Riegel, Catasauqua, and William B. Erdman, Macungie.——Dr. George W. Reese, Mahanoy City, has been appointed superintendent and surgeon in chief of the State Hospital for Injured Miners, Shamokin.——Dr. Pius A. Noll, Dallastown, slipped on an icy pavement in front of his office, January 12, and fractured his right patella.——Dr. George Price, Altoona, was stricken with cerebral hemorrhage, January 3, and is still critically ill.——Dr. Mary A. McCay, Sunbury, fell on an icy sidewalk, January 9, and fractured the right femur at or near the trochanter.

Philadelphia

Beriberi Found.—Four sailors, members of the crew of the British steamer *Karema*, which arrived in Philadelphia from Calcutta, January 11, were found to be suffering from beriberi and were taken to the State Quarantine Hospital, Marcus Hook.

Personal.—Dr. Walter S. Cornell has been appointed chief of the staff of school medical inspectors.——Dr. Conrad S. Reynolds has been elected president of the Kennett Square Board of Health.——Dr. James M. Tyson was the guest of honor at the annual dinner of the York County Medical Society on January 11.——Dr. Anna E. Kramer was painfully but not seriously injured in an automobile accident on January 13.

Philadelphia Hospital Changes.—In order to secure more competent attendants for the care of the insane at the Philadelphia General Hospital, it is planned to shorten the hours of duty, which at present are from 6 a. m. to 7 p. m. and from 7 p. m. to 6 a. m. It is planned also to make the institution a training school for nurses, so that the attendants may qualify for more advanced work or for general nursing. The women attendants start with $20 a month and board, and reach, by service, a maximum of $50 a month and board. The salaries of the men attendants range from $30 to $50 a month and board on a similarly advancing scale.

Typhoid Decreasing.—While pneumonia caused nearly 100 deaths in this city during the week which ended on January 20, the new cases of typhoid fever recorded dropped from 103 the previous week to forty-eight this week. The number of deaths reported from typhoid fever during the present week was twelve.

Annual Elections in Societies.—The Polyclinic Ophthalmic Society has made a change of secretaries, Dr. D. Forest Harbridge succeeding Dr. Joseph C. McCool.——The Northeast Branch of the Philadelphia County Medical Society has elected Dr. Paul S. Bremer, president; Dr. Henry Beates, Jr., vice-president; Dr. Lee Boyd, secretary; Dr. Howard L. Geisler, corresponding secretary, and Dr. John W. Millick, treasurer. ——The Physicians' Motor Club has elected Dr. S. Leon Gans, president; Drs. L. Webster Fox, John J. Robrecht and Charles A. E. Codman, vice-presidents; Dr. J. Gurney Taylor, secretary, and Dr. Lewis W. Adler, treasurer.——The Pathological Society of Philadelphia has elected the following officers: president, Dr. Allen J. Smith; vice-president, Dr. Richard M. Pearce; secretary, Dr. Oliver H. P. Pepper, and treasurer Dr. Courtland Y. White.——The Philadelphia Pediatric Society has elected the following officers: president, Dr. Theodore LePoutillier; vice-presidents, Drs. Arthur Newlin, William N. Bradley and John F. Sinclair; treasurer, Dr. Frederick Fraley, and secretary and recorder, Dr. Maurice Ostheimer.

Health Bureau Blamed for Typhoid.—On November 28, a water main at the Roxborough reservoir burst and raw water was turned into the city main, supplying four wards for ten days, and this caused more typhoid fever in those wards than has been recorded for the entire year from the same district. From December 16 to January 13, there were reported 291 new cases of typhoid from the Twenty-First, Twenty-Second, Thirty-Eighth and Forty-Second wards, compared with 186 cases in the same wards in the entire year of 1910. There were fourteen deaths from typhoid fever in this district in that period compared with twenty-four deaths in 1910. The Bureau of Municipal Research has addressed a communication to Mayor Blankenburg charging the Bureau of Health with either gross neglect or defective method in giving proper notice to this large section of the city of the intention to pump raw water into the mains. Morris L. Cooke, the new director of public works, has taken steps to prevent a repetition of the condition which resulted from the failure of the Bureau of Health and the Bureau of Water to give proper warning to the residents of the wards affected to protect themselves against typhoid by boiling all water used for drinking or kitchen purposes. An arrangement has been made whereby the police will notify every householder either verbally or by printed notice to boil water whenever in the future it may be necessary to substitute raw water in the mains.

SOUTH DAKOTA

Personal.—Dr. Ida Stevenson, Canton, who has been a missionary in China for ten years, is reported to be ill in New York City.——Dr. Vernon Roberts, assistant surgeon at Battle Mountain Sanitarium, Hot Springs, has been appointed first assistant surgeon at the National Soldiers' Home, Dayton, O.——Dr. Rollin E. Woodworth, Sioux Falls, has been appointed superintendent of the State Tuberculosis Sanatorium, Custer.——Drs. Robert L. and Robert B. C. Murdy, Aberdeen, have been appointed district surgeon and assistant district surgeon, respectively, of the Chicago, Milwaukee and St. Paul Railway.——Drs. David L. Rundlett, Eivind Klaveness, Joseph G. Parsons, Gilbert G. Cottam and Edwin L. Perkins, all of Sioux Falls, have been selected as a committee on training school for the McKennan Hospital, Sioux Falls.

District Society Meetings.—At the annual meeting of the Mitchell District Medical Society held in Mitchell, the following officers were elected: president, Dr. Elwin F. Reamer, Mitchell; vice-president, Dr. Frederick W. Freyberg, Mitchell; secretary, Dr. Clyde S. Bobb, Mitchell, and treasurer, Dr. Floyd S. Kidd, Woonsocket.——At the annual meeting of the Watertown District Medical Society held in Watertown, Dr. Harry M. Freeburg, Watertown, was elected president; Dr. James B. Vaughn, Castlewood, vice-president, and Dr. Stanley B. Dickinson, Watertown, secretary and treasurer.——Black Hills Medical Society, at its annual meeting held in Deadwood, elected Dr. Robert J. Jackson, Rapid City, president; Dr. Frank E. Clough, Lead, vice-president; Dr. Felix E. Ash-

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croft, Deadwood, secretary, and Dr. James A. Crouch, Lead, treasurer.——Dr. Martin M. Grove, Dell Rapids, has been elected president of the Sioux Falls District Medical Association.

TEXAS

Asks Government Reservation for Sanatorium.—Governor Colquitt has addressed a letter to Senator Culbertson, asking him to support a bill before Congress, which turns over to the state of Texas the use of Fort Clark as a tuberculosis sanatorium.

Building for State Association.—The trustees of the State Medical Association of Texas are considering a plan for the building of a permanent home for the association, to cost about $150,000, on a site yet to be selected. There is available at present in the treasury for this purpose the sum of $10,000.

Medical Societies Reorganized.—On December 18, physicians of the county met in Palestine and reorganized the Anderson County Medical Association, electing Dr. John H. Evans, president; Dr. Rufus M. Dunn, vice-president; Dr. Edward B. Parsons, secretary and treasurer; Dr. John C. Silliman, delegate to the state association and censor, and Dr. Edward L. Rose, alternate, all of Palestine.——Hays County Medical Society was reorganized in a meeting held at San Marcos, January 1. Dr. N. Milton C. Williams was elected president; Dr. Edwin T. Powell, vice-president, and Dr. Louis L. Edwards, secretary-treasurer, all of San Marcos.

Personal.—Dr. Irving L. McGlasson, Waco, has been commissioned first lieutenant, M. C. N. G. Texas.——Dr. Harry E. Hoke has been appointed assistant health officer of Waco.——Dr. Manton M. Carrick, Dallas, has been appointed division surgeon of the Trinity and Brazos Valley Railroad.——Dr. Daniel H. Bailey, formerly of Denison, now at the North Texas State Hospital, Terrell, is reported to be seriously ill with erysipelas.——A fire at Quinlan destroyed the office of Dr. Elijah C. Bills, with a loss estimated at $600.——Dr. Garth Riddler, assistant health officer of Dallas, who was injured in a collision between a street car and an automobile at Oakcliffe, December 10, is reported to be critically ill in St. Paul's Sanitarium.

District Society Meetings.—The semiannual meeting of the Central Texas District Medical Society was held in Waco, January 9 and 10, and Dr. Edwin Graves, Gatesville, was elected president, and Dr. H. Frank Connallay, Eddy, secretary.——The Seventh District Medical Society held its annual meeting in Austin, December 21, and elected the following officers: president, Dr. Columbus C. Black, Georgetown, and secretary, Dr. Lewis B. Bibb, Austin.——The South Texas District Medical Association held its annual meeting in Houston, December 14, and elected Dr. Oscar L. Noraworthy, Houston, president; Dr. Thomas J. Carter, League City, vice-president, and Dr. Edward F. Cooke, Houston, secretary-treasurer. Beaumont was selected as the next place of meeting.——The North Texas Medical Association held its annual meeting in Fort Worth, December 12-14. Dr. William G. Harris, Plano, was elected president; Dr. David F. Kirkpatrick, Lewisville, vice-president; Dr. Hugh Leslie Moore, Dallas, secretary, and Dr. K. Herberden Beall, Fort Worth, treasurer.

The Meningitis Situation.—It is reported by the health authorities of Dallas that the poliomyelitis situation is distinctly more favorable and that the epidemic is well in hand. Up to January 20, there had been 225 cases reported; of these 202 are said to have been actual cases of meningitis, and of these ninety-nine patients died. Of the patients 128 were white, of whom sixty-eight died, and seventy-four were colored, of whom thirty-three died. There are at present under quarantine in Dallas sixty-four houses, in some of which there are cases of meningitis and from others cases have been removed to the city hospital. Disinfection of the premises and discharge from quarantine has already commenced. The City Hospital, Dallas, was cleared of all other patients and placed in charge of Dr. A. Sophian from the Rockefeller Institute for Medical Research, as a meningitis hospital. He is said to be making from forty to forty-five injections of serum a day and is toiling almost incessantly. In proportion to the population, Waco had a more severe epidemic than Dallas. At Waco, up to the evening of January 9, there had been 105 cases, with forty-two deaths. The procedure practiced by Dr. Sophian is as follows: The patient undergoes the usual cleansing preparation, then while a careful watch is kept of the blood-pressure and pulse, from 15 to 45 cubic centimeters of cerebrospinal fluid is withdrawn, or fluid is withdrawn until the blood-pressure drops from 5 to 10 millimeters, depending on the condition of the patient. Many patients are unconscious at the time the operation is made. Following the removal of the fluid serum is injected in varying quantities, but almost always in smaller amounts than that of the fluid removed. Some cases are of very rapid progress: One girl is reported to have had the first symptoms at 7 in the morning and had died four hours later. The disease is said to have a larger mortality in white people than in negroes. It is a matter of surprise also that the majority of patients are adults. It is said that all the available serum of Rockefeller Institute has been sent to Dallas.——The Louisiana State Board of Health has consulted Dr. Rupert Blue, U. S. P. H. and M.-H. Service, Washington, regarding the desire of Shreveport citizens to continue the quarantine, which was established by that city, January 10, and asking him for statistics relating to quarantine against cerebrospinal meningitis. The surgeon-general wrote in reply: "Quarantine in New-York epidemic unsatisfactory on account large number healthy carriers. Recent experience indicates that most practical measures are—provision for early bacteriologic diagnosis, isolation of those actually sick, and free distribution and use of curative serum."——At a called meeting of the Jefferson County Medical Society held in Beaumont, January 13, to discuss the prevalence and prevention of cerebrospinal meningitis, the following resolution was adopted unanimously:

WHEREAS, Epidemic cerebrospinal meningitis is a disease that seldom becomes epidemic in semitropical climates; and

WHEREAS, We have no fear of an outbreak in Jefferson County; and

WHEREAS, General cleanliness and sanitation are conducive to good health and the prevention of cerebrospinal meningitis, as well as all other diseases; be it

Resolved, That the mayors of the different cities in the county, in conjunction with the county judge, set aside one day as "clean-up day," to be observed by all citizens of Jefferson County.

GENERAL

Personal.—Dr. George W. McCoy, U. S. P. H. and M.-H. Service, has been designated as sanitary adviser to the government of Hawaii.——Captain Henry B. McIntyre, M. C., U. S. Army, has resigned.

Spring Meeting of Missouri Valley Society.—The spring meeting of the Medical Society of the Missouri Valley will be held at Colfax, Iowa, March 21-22, with headquarters at Hotel Colfax.

American Hospital Association to Meet.—The fourteenth annual meeting of the American Hospital Association will, it is announced, be held in Detroit, December 24-27. The association is composed of hospital trustees, managers, contributors and officers of associations founded to promote the interests of organized medical charities. Dr. Henry M. Hurd, Baltimore, is president, and Dr. John N. E. Brown, Toronto, secretary of the association.

Bequests.—The following bequests to hospitals have recently been announced:

Children's Hospital, Philadelphia, $2,000, by the late Bishop Alexander Mackay-Smith of the Episcopal diocese of Pennsylvania.

Brooklyn Nursery and Infants' Hospital, $1,000, by the late Mrs. Evelyn Ridgeway.

Jewish Hospital, Brooklyn, $50,000, by the late Abraham Abrahams.

Presbyterian Hospital, New York City, and the New York Eye and Ear Infirmary, each $20,000, by the late Emily H. Moir.

Mount Sinai Hospital, New York City, $5,000, by the late Nathan F. Straus.

St. Vincent's Hospital, New York City, $10,000, by the late Katherine I. D. Harnett.

St. Luke's Hospital and Children's Hospital, Denver, each $5,000, by the late Charles B. Kountze.

Medical Fraternity Meeting.—The twenty-sixth annual convention of the Phi Chi Medical Fraternity was held in Indianapolis, December 28-30. Philadelphia was chosen as the meeting place for 1912, and the following officers were elected: grand presiding senior, Dr. George C. Amerson, Chicago; grand presiding junior, Dr. Carl V. Sputh, Indianapolis; executive trustees, Drs. Charles D. Humes, Indianapolis, and Charles W. Hibbitt, Louisville; national extension committee, Drs. F. L. Luckie, Birmingham, Ala.; James A. Price, Atlanta, Ga., and Robert M. Ellyson, Washington, D. C.; and Western extension committee, Drs. Harry A. Tash, Ann Arbor, Mich., and Ernest Wood, Chicago.

FOREIGN

Death of Albarran.—The cable brings word of the death at Paris of the eminent surgeon, Professor Joaquin Albarran, at the age of 50. In 1906 he succeeded Guyon in the chair of genito-urinary diseases at the Paris Faculté de Médecine. Albarran was a Cuban by birth and his statue was unveiled last year in the small town where he was born. He obtained his medical degree at Madrid, but commenced his professional

career as an intern at Paris where he won a gold medal in 1888 for his surgical work, the Oulmont prize in 1889, and other prizes in 1892 and 1904 for his monographs on tumors in the bladder and kidneys. He has invented and perfected several instruments and published numerous articles on subcapsular nephrectomy, asepsis in catheterization, etc.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Jan. 13, 1912.

The National Insurance Act

The council of the British Medical Association continues to be the subject of sharp criticism for not having done better in its negotiations with the government and above all for consenting to the appointment of the medical secretary of the association as deputy chairman of the insurance commissoners. In my previous letters I have shown that excepting this appointment, it was the representative body of the association which was responsible for the policy pursued and that the council, as the executive of the association, only carried out the policy adopted by the former. In turn, the rank and file of the association were responsible for the policy, which was discussed at the meetings of the divisions of the association. Each division gave a mandate to its representative as to the policy he should support at the meeting of representatives. In reply to this defense of the council, the proceedings of the representative body are criticized and are said to have been dominated too much by "the platform." It is alleged that at an early stage of the proceedings the chairman, Dr. Maclean (who is *ex officio* a member of the council) told the representatives that they were free to vote as they thought fit and were not bound by the terms of the resolutions passed by the divisions which they represented. The verbatim report of the meeting, however, shows that this criticism is not quite fair. What occurred was this. In answer to a question by one of the representatives whether a representative can vote otherwise than he is directed by his division and can be influenced by arguments adduced to support any motion, the chairman asked whether his personal opinion on the point was requested. That being answered in the affirmative, he said, "I do suggest that the representatives are not delegates bound hand and foot and are not prevented from taking into consideration views expressed by representatives from other parts of the country." The excitement which prevails among the members of the association is unprecedented. Meetings are being held all over the country and are being attended by large numbers instead of the usual handful of active members, who are usually left by the majority to determine even most important issues. The great majority of the meetings have declared, with practical unanimity, that unless the six points are granted they will have nothing to do with the act. The council has been requested by many divisions to convene a special representative meeting to consider this emergency. Outside of the association, a new body has been formed in Manchester for the express purpose of resisting the act and is receiving great support. On the other hand, a certain Dr. Knight of Edinburgh, who is not a practitioner, but a medical coach, has sprung into notoriety by founding an association of physicians for the purpose of working the act. All news of this association is given through newspapers which support the government. Dr. Knight announces from time to time that he is making satisfactory progress and has now enough men to work the act in Scotland and the North of England (places where hostility to the act is greatest), as well as in London. But he withholds both the names and number of his adherents. He declines to give the names for fear of a professional boycott, but does not say why he withholds the number. His announcements are therefore regarded as part of that bluff which is inseparable from politics.

It may be recalled that the association formulated six cardinal points which it regarded as essential for the satisfactory working of the act. These were: (1) free choice of doctor; (2) medical benefits to be administered by local insurance committees and not by the friendly societies; (3) adequate medical representation on every authority, central or local; (4) an income limit of $10 a week for those entitled to medical benefits; (5) medical remuneration to be what the profession considers adequate, having proper duties to be performed and other conditions of service; (6) the methods of remuneration adopted by each local insurance committee to be in accordance with the preference of the majority of the profession in that particular district. Of these the first three have been obtained in the act but the second three have not, though it is quite possible for them to be obtained by local arrangement. The profession, while practically unanimous in demanding the six points, is divided into two camps on the question of tactics. One thinks the British Medical Association should have put up a better fight, and when it found that all six points would not be embodied in the act have sent an ultimatum to the Chancellor, Mr. Lloyd-George, declining to work the act. The other is in favor of working the act and endeavoring to obtain the remaining three points by local regulations. This is the official policy of the British Medical Association and has been adopted by its representative body. The association appears to have done everything possible to obtain the six points. That they have not all been inserted in the act is due to the fact that the profession is only a small factor in politics. Thus the demand for an income limit of $10 a week received no support from either of the two great political parties and had to be withdrawn as the few votes it would have received would have been damaging to the cause. The association did one thing, however, which should go a long way in obtaining the three points. It circulated an invitation to the whole profession—inside as well as outside the association—to pledge itself not to work under the act except on such terms as were acceptable to the association. To this pledge over 26,000 signatures have now been received. There are about 32,000 doctors in Great Britain, of whom it is estimated only 24,000 are available for service under the act. It is therefore concluded that the number of promises received is more than enough to make the measure a dead letter as far as medical benefits are concerned.

In the lay press a vigorous campaign against the act as a whole is being carried on and the opposition organs have not been slow to endeavor to exploit the discontent in the medical profession for party purposes. There are indications, too, inside the profession that some of the leaders of the extremist section are influenced by their political hostility to the government. The *Practitioner*, an organ of private ownership and therefore not representative of the opinion of the profession, has circulated a more extreme pledge than that of the British Medical Association—one declining to work the act if 23,000 signatures to that effect can be obtained. In this "privateer campaign" (as the *British Medical Journal* terms it) it has found a powerful ally in the *Daily Mail*, a notoriously "yellow" organ. In this paper the number of signatures to the pledges first received were announced with a great flourish of trumpets in large headlines. On January 2 they were 15,000 but since that date they have been coming in slowly and the figures are relegated to an obscure corner. It does not seem that the requisite 23,000 signatures will be obtained. Many doctors who have signed the pledge of the British Medical Association resent the intrusion of a private journal into the movement.

The malcontents of the British Medical Association have formed a new organization called "The British Medical Reform Association." An inaugural meeting has been held in London under the presidency of Dr. F. J. Smith, who organized the meeting, reported in a previous letter to THE JOURNAL. He said that they were not quarreling with the policy of the association, but that that was an entirely different thing from the policy of the council. The new association recognizes the fact that the British Medical Association is the only organization capable of obtaining the demands of the profession and that it is impossible to repudiate the deliberate acceptance by the profession of some form of state medical insurance in the interests of the community. It desires to form an organization of members of the association to control the voting strength at meetings and place on the local medical committee and insurance committees provided for in the act those who will insist on the six cardinal points. It is intended to demonstrate to the members of the association that this body can under proper conditions secure the demands of the profession. The reform committee "will endeavor to replace those who have been responsible for the recent action of the association in respect to the insurance act by members, who it is believed, will be more in accord with the profession." It also proposes to present to the prime minister a national memorial in which the doctors will declare that if they are to accept service under the act the six points must be embodied in an amending act. In other words if the doctors enter into negotiations with the insurance authorities and accept service any arrangement which may be arrived at must be regarded as only temporary. It is hoped that the committee may work in association with the National Medical Union (another association of doctors discontented with the action of the British Medical Association and formed at Manchester).

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The Threepenny (Six-Cent) Doctor

In the slum practices of London and some of the other large cities, the fee for consultation at the office and for medicine is only sixpence (twelve cents). This form of practice is generally condemned by the profession as bad for both patient and physician—for the former because it is impossible at this price to diagnose and treat the case properly; for the latter because it is lowering to the dignity of the profession. Such cheap practice by no means implies a small income. In some cases large incomes, as much as $5,000 are made. This is possible if 120 patients are seen during the day and this figure is often exceeded. The examination, of course, tends to be perfunctory and the treatment, routine. A physician practicing in the slum district of Homerton in the east end, has beaten the record by establishing a fee of threepence (6 cents). He married during the past summer and the event was depicted in the illustrated papers as the wedding of the "threepenny doctor." When interviewed by the reporters he said that his patients were very poor and that threepence was as much to them as the two guineas ($10) paid to the west-end consultants. He thus posed as a philanthropist. Recent events, however, throw some light on this "philanthropy." The doctor has grown rich. He has figured in two inquests on the same day. He was attending a child suffering from bronchopneumonia, which suddenly became worse. He was sent for but refused to go and the child died. An inquest was held, and when censured by the jury the doctor said, "I have no time to go to such cases. I have had 80,000 patients this year; mine is the largest practice on earth." In the second case he also refused to go to a child whom he was attending. He told the messenger that he could not undertake urgent cases. The child died on the same day. The doctor told the jury that he had been up the whole of the previous night and at the time he was summoned there were 300 patients waiting for him. He was then asked why if he had such a tremendous business, he had recently opened another office in another part of London. He said, "I attend to everybody to the best of my ability. If they do not want me they need not come." He was told, "You get your business because you are cheap." He replied, "My work speaks for itself. Why are all the other surgeries empty? My death-rate is a third of that of the London Hospital." A juror said, "It seems to me you take the threepence and then turn the patient adrift when you are most wanted." The jury in returning a verdict of death from natural causes censured the doctor, who then said, "I wish through the medium of the press to tell the world and Homerton that in future I shall absolutely refuse to attend urgent cases that interfere with the routine of my business."

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Jan. 5, 1912.

Private Clinics and Members of Religious Orders as Nurses

Some physicians of Périgueux, the capital of Dordogne, in 1910 founded a *maison de santé* with a personnel consisting of lay persons and sisters of the order of Saint Martha, an authorized nursing sisterhood. The government has just required the management to laicize their establishment. If this rule should become general it cannot fail to do great injury to all private clinics, in the greater number of which in our country members of religious sisterhoods are employed as nurses. It is with difficulty that surgeons find competent lay nurses in the large centers, but in the smaller centers this would be impossible. The physicians of Périgueux have appealed to the Association générale des médecins de France, the medical *syndicats*, etc., to defend their menaced professional liberty.

Experimental Production of Measles

Drs. J. F. Anderson and J. Goldberger have shown that measles can be inoculated into two species of lower monkeys, the *Macacus rhesus* and the *Macacus cynomolgus*, and that the virus exists in the patient's blood during the first time of eruption (THE JOURNAL, July 8, 1911, p. 113). On December 26, Drs. Charles Nicolle and E. Conseil reported before the Académie des Sciences a conclusive positive experiment which confirms the work of Drs. Anderson and Goldberger, and at the same time establishes the sensitiveness to measles of a third species of monkey, the Chinese bonnet monkey, *Macacus sinicus*. This experiment shows that the measles virus exists in the blood of patients twenty-four hours before the eruption appears. Drs. Nicolle and Conseil inoculated an adult *Macacus sinicus* in the peritoneal cavity with 6 c.c. of the blood of a child aged 9 years, showing prostration, an intense congestion of the eyes, lacrimation, coryza and a temperature of 39.2 C. (102.5 F.) without any trace of eruption. A brother of this child was at this time in the fifteenth day of a typical measles eruption and two other children of the same family showed the same symptoms as the little patient. In all three the eruption appeared twenty-four hours later and the child who was the subject of the experiment died later of bronchopneumonia. The inoculated monkey presented no other symptoms than fever and a very light prostration. The fever began after the ninth day of incubation; it attained its maximum, 40 C. (104 F.), on the second and third day and lasted only six days altogether. There was neither hypothermia nor loss of weight following.

Measles then is contagious before the beginning of the eruption, that is, at a period when it cannot be generally recognized.

Will of Professor Lannelongue

Professor Lannelongue bequeaths to the Association générale des médecins de France an annual income of $100 for unfortunate physicians or their widows; to the Université de Paris the same sum to be employed at the discretion of its council; to the Faculté de médecine de Paris the same amount for the use of needy medical students. To the Oeuvre de préservation et de réhabilitation pour les jeunes filles, which was founded by Mme. Lannelongue, he bequeaths $140,000 (700,000 francs), besides the gifts Professor Lannelongue made to it after the death of his wife. Some time before his death Professor Lannelongue gave to the government material for a museum of art which will be founded in Castera-Verduzan, his birthplace, of which place he was mayor for thirty-six years. With this, Professor Lannelongue gave the sum of $36,000 (180,000 francs) for the installation and maintenance of the museum which will bear his name.

The Use of Unauthorized Serums

In my previous letters I mentioned the prosecution against Dr. Lorot of Paris for injection of an unauthorized serum (THE JOURNAL, May 6, 1911, p. 1340, and Oct. 14, 1911, p. 1298). On this subject the Syndicat des médecins de la Seine, in its general assembly, protests on the grounds that the interest of medical science and practice demand that physicians shall not be limited in their research by the law which was made to apply to the sale of pharmaceutical products.

Praise for American Scientific Style

In an article on the value of classical instruction in the preparation of young people for the technical schools, M. Henry Le Chatelier, professor at the Sorbonne and member of the Académie des Sciences, emphasizes the importance of pure and clear style in scientific writings, and compares American and English scientific papers, saying that most of the latter are absolutely unreadable; all the American papers are clear and comprehensible, even monotonously so, as if written by the same pen. "I have more than once," declared M. Le Chatelier, "on receiving an unreadable thesis for the doctor's degree in chemistry, said to its author, 'Open the *Journal of the American Chemical Society*, select one of the papers in this publication and imitate the style of the American chemist in describing your own results.'"

Premiums Offered by Medical Journal

The *Paris Médical*, a weekly journal which has been issued for the last year under the direction of Prof. A. Gilbert, continues the deplorable practice which it introduced into French medical journalism of offering premiums to subscribers. In the list of premiums for 1912 one finds not only objects having some relation with the medical profession but also a case of perfumery, certificates for one or two dollars to apply for room rent at hotels, etc.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Jan. 5, 1912.

Personal

Professor v. Winckel, formerly director of the university gynecologic clinic at Munich, died at that place, January 1, aged 74. Some months ago he suffered an accident in falling from a chair and has been ill ever since. Probably he experienced a cerebral hemorrhage from the fall. He resigned his position four years ago but he still remained one of the foremost representatives of his specialty. His medical education

was received as a pupil of the Kaiser Wilhelms Akademie für das militärärztlichen Fortbildungswesen, in the same way as Virchow, Leyden, Behring and others of our most distinguished medical men. In 1861 he became assistant at the Berlin university gynecologic clinic under the elder Martin, and in 1866 he was summoned at the age of 29 to Rostock as professor of gynecology. In 1872 he was given charge of the institute for instruction of midwives, at Dresden, and in 1883, he became professor of gynecology at Munich. His scientific works included the entire field of his specialty, and were numerous and important, including his "Diseases of the Female Sexual Organs in Photographic Reproduction" (*Lichtdruck-Abbildungen*), "Textbook of Gynecology" (*Lehrbuch der Frauenkrankheiten*) and the large "Text-Book of Obstetrics" (*Lehrbuch der Geburtshilfe*), published by him, in which he himself prepared several important chapters. As a teacher he was extraordinarily beloved. His work in organizing the clinic and in scientific societies was also of great importance, and he was a moving spirit in the founding of the Deutsche gynäkologische Gesellschaft.

Professor Uhthoff of Breslau has unexpectedly declined the appointment to succeed Michel here at Berlin, which, as I informed you, he had already accepted. His motive for this action was the labor connected with the rebuilding of the university eye clinic. He thought such a responsibility was more suitable for a younger man. Probably Professor Axenfeld, of Freiburg, who was to have been his successor at Breslau, will be called to Berlin.

The noted zoologist, Professor Weissmann, of Freiburg, will retire at the end of this semester on account of his advanced age.

Poisoning in the Berlin Municipal Lodging House

Immediately after Christmas a number of persons in the municipal shelter of this city were taken with symptoms of acute poisoning. Some of them died in a few hours. On the following days the attacks and fatalities were repeated until by December 30, 161 persons had been taken sick, of whom seventy-one had died. Originally it was supposed that the illness was due to decomposed smoked meat which had led to symptoms of botulismus. Later, however, the conclusion was reached that in most cases there had been an intoxication with wood alcohol which had been sold in the saloons in the neighborhood of the lodging house for ordinary whiskey. Such severe results from methyl alcohol have not been heretofore observed in Germany. In other countries a number of observations have been made, especially those which were published two years ago by Grosz, from the Budapest eye clinic. The examinations of our cases are not yet completed; it must still be determined whether the *Bacillus botulinus* took any part in the etiology, and why the use of methyl alcohol had such serious consequences in these cases. It is worthy of note that since it was assumed that the illness was due to spoiled smoked fish, not only the consumption of smoked meat, but also of raw flesh has markedly fallen off.

Free Diphtheria Serum

The municipal authorities of Rixdorf, a suburb of Berlin, in view of the great amount of sickness from diphtheria have determined to distribute antitoxin free of charge to all inhabitants who have an income of less than $500 (2,000 marks).

Compulsory Military Service for Women

At a meeting of the union of patriotic women's clubs (Verband väterländischer Frauenvereine) for the governmental district of Düsseldorf, Professor Witzel, formerly director of the Düsseldorf Akademie für praktische Medizin, advocated the legal introduction of compulsory military service for women. His idea is that young women should be trained as assistants in the transportation and commissary departments, as nurses for sick and wounded soldiers and as aids for the food and clothing service. A committee was appointed for the carrying out of the idea. We make no mistake in assuming that this is a utopian scheme so far as the legislative introduction of such a service is concerned.

Specialism

The much treated question of the conditions under which a physician may designate himself as a specialist has again been discussed lately in the district medical society of Dresden (Aerztlicher Bezirksverein). The special topic of debate was how far the specialty of internal medicine and pediatrics can be separated without encroaching on the field of the general practitioner. After long discussion it was decided that the practice of internal medicine or pediatrics can not be classed as a specialty, on account of the essential difference between such a practice and the other specialties hitherto recognized, in the sense of Section 5 of the professional ordinances, and the resolution adopted by the society in April, 1905. In practice, however, it may be proper for a physician to style himself "Physician for Internal Medicine" or for "Diseases of Children" (*Arzt für innere Krankheiten bzw. Kinderkrankheiten*) instead of or in addition to "General Practitioner," omitting the usual "and Surgeon" or "Obstetrician."

It is also proper for any physician who has for six years been employed mainly in internal medicine and pediatrics, either as assistant, or in his own practice, to style himself "Physician for Internal Diseases," or "Pediatrician," or "Physician for Internal and Children's Diseases."

The claim to be a "Specialist in Internal Medicine" or "Specialist in Children's Diseases," is not justified unless the physician has served at least three years as assistant or as chief in the internal department of a large hospital or children's hospital respectively, and has devoted himself exclusively to internal medicine or pediatrics.

The Census for 1910

According to the census of Dec. 1, 1910, the population of the German empire amounted to 64,925,993 persons; 32,040,166 males and 32,885,827 females; an increase of 7.04 per cent. in the last five years. From 1900 to 1905 the increase was 7.58 per cent. In 1910 there were 102.6 females for 100 males; the population per square kilometer in 1910 was 120.04. Berlin has 32,665 inhabitants per sq. km. and Hamburg, Bremen and Lubeck, respectively 2,447.63, 1,168.24 and 301.65.

Preliminary Education for Medical Students

In the Munich Aerztlicher Verein, the local medical society, in one of the last sessions the committee on education proposed the following principles for the preliminary education of pupils who intend to study medicine: 1. First of all we express the wish for the introduction of a systematic and progressive instruction in natural sciences, extending through all classes, which shall be assisted by an abundant practical material for demonstration and exercises and in which the object shall not be the attainment of an extensive theoretical knowledge but the sharpening of the observing powers and the awakening of an inclination for scientific facts. The subject of health should find its place in this instruction in natural science. 2. Next it seems to us that an increase, even if only moderate, of the instruction in modern languages is indicated; this could be begun one or two years earlier or increased by an hour a week. Not only to the future physician, but to all students it would be of advantage, if more emphasis were placed on a greater facility in speech or at least on a better knowledge of conversational language and its peculiarities than on the philologic factors in language. 3. With reference to instruction in mathematics, we can only speak a word for the optional widening of the field of higher mathematics. Within the limits now imposed, we share the extended wish that the extensive learning of formulas be essentially reduced and, in place of this, greater attention be paid in future to the practical application of mathematics and study of conception of functions. 4. We emphasize briefly further the utility of continuing the corresponding instruction in drawing throughout the whole gymnasium or preparatory course. The present way in which drawing is taught is often only a waste of time.

In order to secure the necessary time for these changes as well as for the unconditional demand for physical development of the pupils, without overburdening them, the following points seem to us practical, without entering into the details of school technic: Instruction in the ancient languages needs, according to the judgment of conservative friends of reform in education, considerable limitation and alleviation, either in the extent of grammatical knowledge and memory work or in the methods of instruction and finally in the reading of the classics and their preparation at home. There is a similar wish for a marked reduction in the exercises of memory, especially in the study of history. With the omission of some of the hours hitherto devoted to the ancient languages and of the time at home connected with these studies, there would be, in our opinion, a sufficient saving of time for the new requirements. Moreover, those efforts deserve to be sustained, from the general standpoint of medicine and school hygiene, which aim for reduction of home work as well as for a reduction of the above-mentioned school tasks which are now accumulating to an injurious extent. Another point emphasized is that pupils should be graded according to their work as a whole, and not by their written exercises and examinations in the so-called principal studies.

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VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Jan. 2, 1912.

Cholera in Austria and Hungary

For some time cholera was, for various reasons, not mentioned in the official reports of the Austrian and Hungarian boards of health. In Austria there was no cholera during the summer; in the other half of the empire sporadic cases appeared, but they were not officially reported. Now there have appeared in the Austrian coast district two cases after a relatively long absence of this disease. The cases were at once dealt with; their origin was traced to Italian coast boats and the small outbreak was speedily suppressed. At the same time, an official announcement from the Hungarian government states that, at last, Hungary is free from cholera. In both parts of the empire the sanitary arrangements were of such a nature that the population could rest assured that a spread of the disease was not to be expected. The mortality was nearly 50 per cent. and those who were attacked were mostly persons whose habits were not hygienic.

Goiter and Goiter-Producing Water in Austria

For several years increasing attention has been paid by the medical profession in this country to the occurrence of goiter. It has been noted that districts formerly free from it now show numerous instances of hyperthyroidism. In Vienna the number of cases of enlarged thyroid glands has more than trebled during the last twenty-five years. It was thought that the water-supply of the capital, coming from the mountains of the Styrian Alps, was responsible for the fact. Also the military authorities were interested in the problem, for numerous recruits had to be rejected from compulsory military service on account of goiters. Especially in the southern provinces of Austria extensive studies by military surgeons led them to believe that goiter was caused by contagion. The various degrees of iodism, cretinism, myxedema, and Graves' disease could be well explained by this hypothesis. In Tyrol the head of the department of health also investigated the question. In his opinion, which he illustrated recently in a lecture before the Gesellschaft der Aerzte at Vienna, he also adheres to a hypothesis of contagion. But, opposed to these suggestions, the adherents of the drinking-water theory have always claimed that there must be an agent in the water which caused the pathologic changes in the thyroid gland. Researches by Professor von Wagner, in the Carinthian Alps, have resulted in the discovery of a well, the water of which caused goiters in rats and other animals. Quite recently another well was discovered not far from Vienna, the water of which caused the appearance of goiters, not only in household animals, but also in the people who drank it regularly. In the clinic of Professor von Eiselsberg experiments were made and it was found that if the water was boiled, its goiter-producing quality was destroyed. It also became known that, in certain parts of the Tyrolean and Italian Alps, recruits wishing to escape military service drink from certain springs and thus produce enlargement of the thyroid. Afterward, if the aim is attained, they drink ordinary water, after which the enlargement disappears. Experiments conducted by Dr. Graf, not yet published, show that the causative agent is an albuminoid body which can be destroyed also by other means than by boiling the water. The question is an important one, for there are about 17,000 persons in Austria suffering from exaggerated forms of thyroid disease—idiocy, cretinism and myxedema—and there are certain districts where the entire population has been destroyed or driven away by the prevalence of these conditions. Goiter is distributed chiefly in mountainous districts but is frequent also in the lowlands. A special committee of the Vienna medical society has now taken the investigation into its hands.

Christmas Celebration by the American Colony in Vienna

Owing to the number of American citizens in this city—including statesmen, medical men, business people, students and "pleasure travelers"—the American ambassador and an eminent member of the Viennese American colony invited their countrymen to a friendly Christmas evening. At both these places numerous members of the American Medical Association of Vienna were present, and home songs and real American dinner pleasures made the guests feel at home. As a rule the feeling of national connection is very strong among the Americans here and numerous Americans have been observed pursuing winter sports in the outskirts of the capital this winter. The only drawback to the Austrian customs at this time is the fact that from Christmas to January 6 no less than seven holidays are observed here, meaning a loss of 50 per cent. of two weeks' clinical and scientific work.

Marriages

WILLARD ORVILLE DAISEY, M.D., Omar, Del., to Miss Elsie Mae Collins of Frankford, Del., December 21.

S. CLARENCE BRUMBAUGH, M.D., Bryn Mawr, Pa., to Miss Ida Iola Rheam at Philadelphia, January 7.

GEORGE J. GOODSHELLER, M.D., Marion, Kan., to Miss Gertrude Pope of Elkhart, Ind., January 16.

MAJOR ARTHUR W. MORSE, M.C., U. S. A., to Miss Charlotte Barnier of Manila, P. I., November 29.

PAUL E. LINEBACK, M.D., to Miss Bessie Ingham, both of Des Moines, Ia., December 31.

JOHN MOCKLER CONROY, M.D., to Miss Agnes Jane O'Connor, both of Chicago, January 15.

FRANTZ H. HARMS, M.D., Chicago, to Mrs. Elsie Junk Reed, at Waterloo, Ia., January 9.

DANIEL J. DAVIS, M.D., to Miss Bessie D. Evans, both of Cincinnati, January 10.

O. RAYMOND MINOR, M.D., to Miss Goldie Purdom, both of Louisville, January 8.

Deaths

Johann Flintermann, M.D., one of the most prominent German physicians of Michigan; died January 15, after an operation for hernia, aged 71. Dr. Flintermann, after his graduation in medicine at the University of Göttingen in 1864, passed the state examination at Hannover in 1865 and then spent two years in postgraduate work at the University of Berlin. He came to Detroit in 1867 and at once became prominent in the medical activities in the city. He was one of the organizers and an early member of the Detroit Board of Health, was once president of the Detroit Medical Library Association, and vice-president of the Detroit Academy of Medicine, and was at the time of this death, president of the Detroit Society of Neurology and Psychiatry. He was for many years a member of the American Medical Association and of the Michigan State Medical Society, and of late an honorary member of the latter organization and a member of its executive board and of the medico-legal committee. He was taken ill January 8, with acute intestinal obstruction due to hernia of long standing and was taken to Harper Hospital, where operation was performed the next day, but on account of his age he failed to rally, and died six days later.

James McKee, M.D. Bellevue Hospital Medical College, 1869; a member of the American Medical Association; one of the most prominent practitioners of North Carolina; for six years secretary of the Medical Society of the State of North Carolina, and a trustee of Rex Hospital, Raleigh; dean emeritus of Shaw University; superintendent of the Central State Hospital for the Insane for twelve years; a Confederate veteran; died at his home, January 9, from angina pectoris, aged 68.

Frank E. Bundy, M.D. Harvard Medical School, 1862; formerly a member of the American Medical Association; contract surgeon in the Army during the Civil War; for two years a member of the Boston School Board; for more than forty years a member of the staff of St. Elizabeth's Hospital and for many years its president; died at his home in Boston, January 6, four days after a surgical operation, aged 73.

Ralph Edward Starkweather, M.D. College of Physicians and Surgeons, New York City, 1869; a member of the American Medical Association and for several years assistant secretary of the State Board of Health; died at his home in Evanston, Ill., January 22, from the effects of injuries sustained in a fall on an icy sidewalk in front of his residence four days before, aged 69.

Amos Burr Straight, M.D. College of Physicians and Surgeons, Baltimore, Md., 1891; a member of the Medical Society of the State of New York, and one of the best-known practitioners of Western New York; formerly a clergyman of the Methodist Episcopal Church; died suddenly at his home in Hornell, January 9, from heart disease, aged 45.

Traugott Friedrich Moritz Roediger, M.D. University of Jena, Germany, 1859; Bellevue Hospital Medical College, 1875; for fifty years a practitioner of New York City; a member of the Medical Society of the State of New York, and one of the founders of the German Hospital; died at his home, January 12, from senile debility, aged 78.

Edward S. Wood, M.D. McGill University, Montreal, 1883; a member of the American Medical Association; a specialist of the diseases of the eye and ear, of St. Paul, and oculist to St. Joseph's Hospital; secretary of the first State Board of Medical Examiners of Minnesota; died in his apartments in St. Paul, January 9, aged 50.

Lauren Fletcher Ellsworth, for more than sixty-five years a practitioner of Ohio and Iowa; a member of the Iowa legislature in 1872 and 1873; local preacher of the Methodist Episcopal church for many years; died at his home in Monroe township, Mahaska County, Ia., November 16, from senile debility, aged 88.

Ezra Puckett, M.D. Vanderbilt University, Nashville, Tenn., 1893; a member of the American Medical Association; formerly a practitioner of Henrietta, Tex., but for a year a resident of Wichita Falls, Tex.; died in St. Joseph's Infirmary, Fort Worth, Tex., January 10, from disease of the kidney, aged 42.

John William Crawford, M.D. Harvard Medical School, 1867; formerly a member of the Massachusetts Medical Society; from 1864 to 1886 a member of the board of health of Lawrence, Mass., and in 1890 mayor of that city; died at his home, January 6, from nervous breakdown, aged 65.

John W. Brown, M.D. New York Homeopathic Medical College, New York City, 1868; for twenty-five years a practitioner of Augusta, Kan., and later a resident of Los Angeles; died in the California Hospital in that city, January 9, after an operation for appendicitis, aged 72.

Thomas J. Kisner, M.D. Indiana Eclectic Medical College, Indianapolis, 1888; died at his home in San Francisco, January 10, from the effects of cyanid of potassium, believed to have been self-administered with suicidal intent, while despondent, aged 80.

Harry Straub Sherrer, M.D. University of Pennsylvania, Philadelphia, 1899; formerly a member of the American Medical Association and the American Academy of Medicine; died suddenly at his home in Bangor, Pa., January 10, from heart disease, aged 36.

George Crawford Daniel, M.D. Medical College of Virginia, Richmond, 1864; ordinary of Madison County, Ga., for more than twenty years; senator from the eleventh district in 1898; died at his home in Danielsville, November 12, from diabetes, aged 72.

Edwin Baker Moore, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1878; New York University, New York City, 1881; a practitioner of Harlan, Ia., since 1878; died in that city, January 4, from pneumonia, aged 61.

Henry Clay McGee, M.D. University of Nashville (Tenn.), 1907; of Hollister, Okla.; was found dead recently in a hotel in Frederick, Okla., from the effects of poison believed to have been self-administered with suicidal intent.

Whitman E. Clark, M.D. Hahnemann Medical College, Chicago, 1873; local surgeon of the Lake Shore and Michigan Southern Railway at Three Rivers, Mich., died at his home, January 2, from cerebral hemorrhage, aged 60.

Joseph R. Pollock, M.D. Hahnemann Medical College, Philadelphia, 1871; formerly a member of the homeopathic board of medical examiners of Texas; died at his home in Fort Worth, January 3, from heart disease, aged 62.

William H. Archibald, M.D. Baltimore (Md.) Medical College, 1895; for ten years resident physician at the New York City Hospital; died suddenly at his home in Jeffersonville, N. Y., January 2, from heart disease, aged 45.

Valentine Gardner, M.D. University of Cologne, Germany, 1848; for more than sixty years a practitioner of Mount Clemens, Mich.; died at the home of his daughter in that place, December 30, from senile debility, aged 90.

James A. Hopkins, M.D. Jefferson Medical College, 1858; a member of the Delaware State Medical Society, and at one time state senator, and school and town commissioner; died at his home in Milton, January 10, aged 78.

William T. Larimer, M.D. Jefferson Medical College, 1879; for many years a practitioner and school director of Allegheny, Pa.; for three years a resident of Altoona; died in Pittsburgh, January 2, from heart disease, aged 60.

Thomas J. Kilmer, M.D. Eclectic Medical College of the City of New York, 1875; founder of a sanatorium and dispensary in Schoharie, N. Y.; died at his home in that city, December 26, from heart disease, aged 78.

Charles Warren Taylor, M.D. Harvard Medical School, 1884; a member of the Massachusetts Medical Society; formerly a member of the board of health of Lowell; died at his home in that city, January 5, aged 52.

Franklin P. Hill, M.D. Jefferson Medical College, 1876; a member of the Medical Society of the State of Pennsylvania; died at his home in Berwick, January 1, from cerebral hemorrhage, aged 58.

F. J. Yager (licensed, years of practice, Kentucky, 1893); for sixty-three years a practitioner of that state; died at his home in Campbellsburg, January 10, from senile debility, aged 93.

Wilson Peter Kistler, M.D. Bellevue Hospital Medical College, 1867; a veteran of the Civil War; a dermatologist of Allentown, Pa.; died at his home, January 8, from pneumonia, aged 68.

James Gordon Jackson, M.D. University of Michigan, Ann Arbor, 1888; of Muskegon, Mich.; died at his summer home, "Westmeath," North Muskegon, Mich., January 10, from heart disease.

Hubert Huber, M.D. University of Heidelberg, Germany, 185—; for nearly sixty years a practitioner of Ohio; died at his home in Ottawa, December 1, from senile debility, aged 83.

Herbert Josiah Santee, M.D. Medico-Chirurgical College of Philadelphia, 1908; intern at the Palmerton (Pa.) Hospital; died January 5, in that institution, from typhoid fever, aged 28.

Brown Fred Swift, M.D. Rush Medical College, 1895; formerly a member of the American Medical Association; died at his home in Chicago, January 19, from pneumonia, aged 42.

Thomas Marion Deitrick, M.D. Medical College of Virginia, Richmond, 1866; a Confederate veteran; died at his home, "Ellerslie" near Lorraine, Va., January 3, aged 71.

James B. Bertolette, M.D. Cleveland (O.) College of Physicians and Surgeons, 1868; died at his home in Leetonia, O., December 30, from cerebral hemorrhage, aged 72.

J. Scott Ward, M.D. Louisville (Ky.) Medical College, 1889; a member of the American Medical Association; died at his home in Clovis, N. Mex.; December 20, aged 46.

Joseph W. Edwards, M.D. Rush Medical College, 1854; a veteran of the Civil War; was found dead in his office in Toulon, Ill., January 13, from heart disease.

Luther Wesley Miller, M.D. Washington University Medical School, St. Louis, 1876; died at his home in Creston, Ia., December 31, from heart disease, aged 62.

William Heavenridge, M.D. Central Medical College, St. Joseph, Mo., 1898; formerly of Hannibal, Mo.; died at his home in Canon City, Colo., December 27.

Virginia Frances Bryant, M.D. Boston University School of Medicine, 1884; died at her home at Nahant, Mass., January 4, from malignant disease, aged 54.

James McEntee, M.D. Detroit Medical College, 1885; a member of the Michigan State Medical Society; died at his home in Mount Pleasant, January 10.

Amos Camp Hall, Jr., M.D. Hahnemann Medical College, Chicago, 1889; died at his home in that city, January 14, from pneumonia, aged 51.

J. L. Cooke, M.D. University of Southern California, Los Angeles, 1905; died at his home in Banning, Cal., December 10, aged 35.

S. W. Murtishaw (license, Ark. 1903); for thirty-one years a practitioner of Jacksonville; died at his home, January 1, aged 69.

Richard Philip Alleyn, M.D. Laval University, Quebec, 1874; died at his home in East Angus, Que., January 5, aged 57.

John W. Quillian, M.D. Atlanta (Ga.) Medical College, 1873; died at his home in Gainesville, Ga., January 5, aged 65.

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The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PHENALGIN

An Ethical (?) Proprietary Exploited Under Fraudulent and Lying Claims

"Phenalgin is a synthetic coal-tar product"—thus ran the advertisements some years ago, when the medical profession was willing to take—or was compelled to take—the word of the manufacturer of proprietary remedies at its face value. Then the Council on Pharmacy and Chemistry was brought into existence. One of the first pieces of work done by the Council was the publication of the results of a number of analyses of headache powders. Phenalgin was among them. Analysis showed that Phenalgin was not a synthetic but a simple mixture of the following ingredients in the proportions given:

Acetanilid	57 parts
Sodium bicarbonate	29 parts
Ammonium carbonate	10 parts

The Etna Chemical Company, which puts out this product, was considerably disturbed by the Council's exposure. It "came back" at the American Medical Association with the slogan "Phenalgin is just what we have always said it to be." What, up to that time, the Etna Chemical Company had "always said" Phenalgin to be, was:

1.—Phenalgin is a synthetic.

2.—Phenalgin is the only preparation of the kind.

3.—Phenalgin is non-toxic.

These, in brief, were the three things that Phenalgin had been asserted to be. Each statement has been proved to be a definite and unequivocal falsehood. Phenalgin is not and never was a "synthetic." Phenalgin is not and never was the only acetanilid mixture containing carbonate of ammonia. Phenalgin is not and never was in any sense of the word non-toxic. Phenalgin, in short, possesses the properties—both good and bad—that are common to acetanilid. It is a mixture that the merest tyro in pharmacy could dispense and for which any sophomore medical student could write a prescription without stopping to think. Acetanilid sells at 8 cents an ounce wholesale; Phenalgin at $1.00 an ounce, wholesale.

All these facts and many more were given to the profession by the Council on Pharmacy and Chemistry in THE JOURNAL more than six years ago—before even the Food and Drugs Act came into effect. After that law became operative, the Etna Chemical Company was compelled to say something on the label that it had never said before, namely, that Phenalgin contained 50 per cent. acetanilid. But the law not only required them to add a fact to their label, but it also compelled them to remove a falsehood. When the pure food law went into effect, Phenalgin was labeled a "malaria germicide." It is not a malaria germicide and never was a malaria germicide, and the Etna Chemical Company dared not risk taking the question into court so it removed the statement.

Unfortunately, the Food and Drugs Act exercises no control over the lying statements that may be made for drugs elsewhere than on the label. So it is that physicians within the last two or three weeks have received a booklet on Phenalgin containing the following assertions for this acetanilid mixture:

"Without the slightest harm, injury or depressing effect."

"Is never followed by depression."

"Its prolonged administration does not give rise to destructive blood metamorphosis."

"Is of great value in the treatment of neuralgia (especially in the anemic)."

"Freedom from the deleterious action or habit-forming tendencies of the opiates."

"It aids in destroying the malarial parasite."

"Safest and most dependable of analgesics."

It will be seen by this that while the Food and Drugs Act has forced a certain degree of truthfulness on the Phenalgin labels, the advertising matter is as fraudulent and as untruthful as ever it was. It is true that the assertion that it is a synthetic is no longer made, possibly because the medical profession has been so thoroughly enlightened on the much-overworked "synthetic" fraud that the falsehood is no longer profitable. In other respects, the assertions are just as false as ever. It is said to have no depressing effect—and yet it is acetanilid. It is said to produce no habit—and yet it is acetanilid. It is said to have no injurious effect on the blood—and yet it is acetanilid. It is said to be the safest analgesic—and yet it is acetanilid. How long will the medical profession continue to be hoodwinked by means of such transparent falsehoods?

The Phenalgin concern takes much credit to itself because on the cartons in which the bottles of Phenalgin come, it is stated that the product is "for dispensing purposes only." Yet, as a matter of fact, practically any layman can go to any drugstore and obtain this product, for the druggist appraises this spectacular piece of Pecksniffian virtue at its face value—a joke. Why, if intended only for physicians, would it be necessary to include with every bottle a circular naming the diseases for which this acetanilid mixture is supposed to be good—"headache," "colds," "lumbago," "scanty menstruation," "pain in any part of the body"—and why is the name of the product and of the firm making it, blown into the bottle?

"PHENALGIN IS JUST WHAT WE HAVE ALWAYS SAID IT TO BE."
—Etna Chemical Co. in 1905.

"Phenalgin is a synthetic coal-tar product."
—Etna Chem. Co. in 1898.

"Unlike the coal-tar synthetic, phenalgin is a stimulant rather than a depressant."
—Etna Chem. Co. in 1910.

TEMPUS OMNIA REVELAT!

To sum up then, Phenalgin is as big a humbug as Peruna ever was. It is sold to-day under claims that are just as false as those used six years ago. The Etna Chemical Company is perpetrating a stupendous fraud on the medical profession to-day and it is doing it not only through the agency of the United States mail, but with the aid and support of the following medical journals—and others—in which the Phenalgin advertisement appears:

Medical Record	*American Journal of Obstetrics*
New York Medical Journal	*Medical Century*
Pediatrics	*Pacific Medical Journal*
Lancet-Clinic	*Dietetic and Hygienic Gazette*
American Journal of Surgery	*Medical Standard*
International Journal of Surgery	*Eclectic Medical Journal*
American Medicine	*Am. Jour. of Clinical Medicine*

It is conceivable that in some cases it is not easy for those editors and publishers of medical journals who insist on relying on their own judgment, to satisfy themselves that certain preparations are not worthy of being advertised. No such difficulty occurs in the case of Phenalgin. Here the issues are clear cut. The product is exploited under claims that are both false and vicious and their falsity and viciousness are perfectly evident to any freshman medical student. The only charitable explanation of the appearance of the Phenalgin advertisements in the medical journals listed is that the editors and publishers have not given the subject the attention it deserves and to which their readers are entitled. Perhaps it would help if their attention were called to the matter by their subscribers.

MR. BLIGHT EXPLAINS

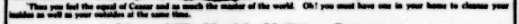
The Relation of an Officer of the League for Medical Freedom to the NaturAID Fake

Information regarding certain officers of the National League for Medical Freedom was published in THE JOURNAL, Dec. 23, 1911. One of the individuals there referred to was Mr. Reynold E. Blight of Los Angeles, about whom we made the following statement:

> Blight's name appears in connection with the "NaturAID Health Utilities Company," which does a mail-order business in curing "rupture, fallen womb, all deformities, malformation, floating kidney, large abdomen, constipation, all stomach troubles and all male and female weaknesses." Blight's name is also used by this concern in its attempts to sell its stock to the public.

Some days later, a telegram was received from Mr. Blight denying that he had ever been connected with the NaturAID Health Utilities Company and asserting he knew "nothing of the affairs of this concern", was "not interested in any way in its business" and that THE JOURNAL article was the first intimation he had had that his name was being used by the company. Later, a letter came from Mr. Blight elaborating the statements contained in his telegram. With the letter was a copy of a letter purporting to come from the NaturAID concern. The latter acknowledged the misuse of Mr. Blight's name and stated that all of its "literature" carrying the name had been destroyed.

So much for the explanation. Our statements regarding the connection of the Chairman of the Southern California branch of the National League for Medical Freedom with this quack institution were based on circulars that were sent broadcast by the NaturAID concern. These, as will be seen by the accompanying photographic reproduction of a part of the circular, proclaimed Reynold E. Blight the "watch-dog" of the "treasury" of the NaturAID Health Utilities Company.



Thus you find the equal of Cæsar and as much the master of the world. Oh! you must have one in your home to cleanse your bodies as well as your outsides at the same time.

NaturAID Health Utilities Company

Chartered under the Laws of Arizona

CAPITAL STOCK - - - $300,000

Divided into 60,000 shares of $5.00 each. Fully paid up and non-assessable—hence equally participating in all profits

Dr. J. ADOLPH PETTER — President and General Manager
ADAM ROSE — Secretary and Treasurer
REYNOLD E. BLIGHT — Auditor and Certified Public Accountant

EASY TO FIND PANTAGES THEATRE BLDG. 536 South Broadway, Los Angeles, Cal. Telephone F 7102

Just a word by the president and general manager about the mentality, personality, powers and decision guiding and directing the affairs of the NaturAID Health Utilities Company. The subject of this sketch, J. Adolph Petter, has been before and among you Southern California people in business since 1888.

Please remember the fact that I am not a mere technical figurehead, but a real live practical flesh and blood business and professional man, who makes it a point to be on hand daily—also yes available and ready to bring my manyo experience, judgment and know how action to bear upon any and all features of the Company's business

Mr. Adam Rose, our secretary and adviser is a broad experienced and highly successful business man of whom you all must know.

Mr. Reynold Blight, our auditor and the watch dog of our treasury, as too well known to require further mention, thus guaranteeing a service which absolutely inspires the confidence of our enterprise and co-operative golden rules treatment to investors.

Of course you want some of this stock

Inc. Revenue from sales and royalties on body NaturAIDing Utilities in all foreign countries of note which is now in course of formation. Book NaturAIDing Utilities [illegible]

It seems, then, that for the past six months or more, individuals, who are strangers to Mr. Blight and to the NaturAID concern and who live in widely separated parts of the country, have known that Mr. Blight's name was being used to sell stock in a quackish concern. Mr. Blight, however, although living in the town in which this quack concern is located, remained in ignorance of this fact until it was called to his attention by a journal published in the interest of a profession with which he is not connected and issued 2,000 miles from where he lives. If the statements sent in by Mr. Blight are correct, the NaturAID Health Utilities Company has been trying to sell stock in its fakery under false pretenses—a criminal offense, we believe, in the State of California. Yet the chairman of the Southern California branch of the National League for Medical Freedom apparently considers the alleged misuse of his name in this connection of so little import that he is willing to let bygones be bygones on the promise that the NaturAID concern will be good in the future.

AYER'S CHERRY PECTORAL

The Old Silence Clause and the Newest Formula

In the editorial on "The Conspiracy of Silence" (THE JOURNAL, Jan. 6, 1912), reference was made to what has been called the "silence clause" that "patent-medicine" manufacturers used to insert in their advertising contracts.

We have received a letter of protest from the J. C. Ayer Company, taking exception to two points raised in our editorial. First, the company claims that it has not used the "silence clause" for nearly six years and second, it holds that our supposititious case of a child dying from an overdose of Ayer's Cherry Pectoral was an exaggeration because the preparation "contains no anodyne whatever."

On the first point, it need merely be stated that the editorial so evidently and patently referred to conditions that are past so far as the "patent medicine" world is concerned that by no stretch of imagination can it be made to refer to present conditions. In fact, the whole theme of the editorial was a comparison between the relation of "patent medicines" to newspapers in the past and the relation of "ethical proprietaries" to medical journals in the present.

With reference to the question as to the dangers of poisoning in a child from an overdose of Ayer's Cherry Pectoral: The J. C. Ayer Company is one of the few concerns that publishes formulas for its "patent medicines." This it has done for about seven years. Three months ago—to be exact, Sept. 29, 1911—a Chicago physician, in answer to an inquiry, received from the J. C. Ayer Company the formula for its Cherry Pectoral. Among the ingredients said to be present in this preparation was "heroin, 1/6 grain" in each fluid ounce. When the company's attention was called to this fact their only reply was that their preparation had contained no heroin for two years.

We are pleased to give the Ayer company credit for having removed a dangerous drug from a preparation intended for self-medication. At the same time, the incident calls attention once more to the variability of composition of proprietaries, whether of the "patent medicine" or the "ethical" kind. Previous to 1905, Ayer's Cherry Pectoral contained, in addition to other ingredients, morphin and alcohol.

At that time the public was being enlightened on the dangers of narcotics in "patent medicines." Morphin was a "scare word" to many people. When the Ayer Company decided to publish the composition of its remedies it revised and practically reorganized the formula for its Cherry Pectoral. Terpin hydrate was added, some of the drugs previously used were omitted and *heroin was substituted for morphin*. The alcohol was retained. As public opinion on the "patent-medicine" question became still more crystallized and, as the campaign was taken up by the various temperance organizations, alcohol also became an unpopular ingredient for these preparations—especially as the Food and Drugs Act required its presence to be declared on the label! A little later we find that Ayer's Cherry Pectoral, according to its re-revised formula, contained no alcohol. The heroin was still retained. Further education on the part of the public led to an appreciation of the fact that heroin was merely a morphin derivative. Still later, then, we find the re-re-revised formula for Ayer's Cherry Pectoral contains no heroin. How long it will be before this "patent medicine" reaches the innocuousness of hydrant water will probably depend on the state of public opinion. Formulas may come and formulas may go, but a nostrum goes on forever—or at least so long as the newspapers will carry its advertisements!

These things are not said in criticism of the J. C. Ayer Company. It is altogether admirable that "patent-medicine" manufacturers should eliminate dangerous habit-forming drugs from their preparations. The thought occurs, however, that if the composition of a "patent medicine" which is sold under an open formula should undergo such radical changes in a comparatively short time, what is happening in the case of those products whose composition has never been made public and whose manufacturers make no pretense of "playing fair" with the public?

V. 5
1912

FORMAMINT

The Profession to Be Worked Again

Formamint Tablets are widely advertised and extravagantly exploited to the laity in Great Britain. Large and expensive advertisements appear in the English magazines and newspapers and the tablets are pushed under the most preposterous claims. The preparation is put out, we understand, by the same concern that exploits Sanatogen. The medical profession of this country is now being circularized and advertisements are appearing in medical journals. They already appear in the *Medical Record*, *New York Medical Journal* and *American Journal of Clinical Medicine*.

It seems then that this is another product which, for the time being at least, is to be a "patent medicine" on the other side of the Atlantic and an "ethical proprietary" on this. Doubtless the distinction will be a temporary one and as soon as American physicians have furnished the requisite number of testimonials and have recommended it to a sufficient number of their patients the advertisements will be quietly dropped from the American medical journals and the advertising pages of newspapers and magazines will be called into service.

Association News

ADDITIONAL APPOINTMENTS ON COMMITTEES

Dr. John B. Murphy, President of the American Medical Association, has made the following additional appointments on committees for the Association year 1911-1912:

SCIENTIFIC RESEARCH

Ludvig Hektoen, Chairman.....Chicago
Graham Lusk.....New York City
Eugene L. Opie.....St. Louis

COMMITTEE TO ADVISE WITH THE NATIONAL RED CROSS

A. T. McCormack, Chairman.....Bowling Green, Ky.
Frank K. Ainsworth.....San Francisco
Henry L. E. Johnson.....Washington, D. C.
Charles A. L. Reed.....Cincinnati
Miles F. Porter.....Ft. Wayne, Ind.

COMMITTEE TO CONSIDER THE MODE OF COMMEMORATING THE COMPLETION OF THE PANAMA CANAL

Isadore Dyer.....New Orleans, La.
H. Bert Ellis.....Los Angeles, Cal.
Jefferson R. Kean, U. S. A.....Washington, D. C.
Presley M. Rixey, U. S. N.....Washington, D. C.
Albert L. Brittin.....Athens, Ill.
Amos Graves.....San Antonio, Tex.
J. Leaming Wiggins.....East St. Louis, Ill.

The following changes have been made in the committees already announced (THE JOURNAL, Sept. 30, 1911):

NOMENCLATURE AND CLASSIFICATION OF DISEASES

Cressy L. Wilbur, Chairman.....Washington, D. C.
(Vice Alexander Duane, resigned)
Frank B. Mallory.....Boston

COMMITTEE ON SCIENTIFIC EXHIBIT

(Three members appointed to complete the committee)
W. M. L. Coplin.....Philadelphia
Frank B. Mallory.....Boston
D. S. Lamb.....Washington, D. C.

COMMITTEE ON ANESTHESIA

Yandell Henderson, Chairman.....New Haven, Conn.
(Vice George E. Brewer, resigned)
Thomas S. Cullen.....Baltimore

Correspondence

The Army Canteen

To the Editor:—I read with great interest the correspondence from Col. L. M. Maus (THE JOURNAL, Jan. 13, 1912, p. 130) giving his view of the Army canteen.

The government expends many millions every year to train soldiers. If the soldier is simply for garrison duty in the home land it is of little importance whether or not he has a canteen, but if we are training soldiers to go into the field, at home or abroad, to fight, we should keep beer and other "booze" out of the garrison. The soldier who has acquired the "light" beer or wine habit is frequently an ideal garrison soldier and just as often absolutely useless when in the field. He misses his beer or wine, talks about it, is discontented; homesickness and nostalgia develop and he is worse than useless as a soldier. He cannot throw off the habit of years. It is absolutely impossible, of course, and would be ridiculous to think of carrying the beer and wine that is advocated for the canteen to the seat of war.

This at least has been my experience with soldiers in the field in time of war in Egypt, the Soudan, India, South Africa, and the Philippines.

P. J. H. FARRELL, Chicago.

To the Editor:—I note that Dr. W. W. Keen of Philadelphia (THE JOURNAL, Dec. 16, 1911, p. 2016, and Dec. 30, 1911, p. 2155), is endeavoring to bring the influence of the medical profession to bear on Congress to pass the Bartholdt bill, to bring back the canteen into the Army with the alleged view of promoting temperance and thereby lessening venereal diseases among soldiers. He intimates that he may be misrepresented, abused and even have his motives attacked. As to his motives, he need not fear. The medical profession will give him credit for the sincerity of his opinion, but not for the correctness of that opinion. Suppose we should grant that the canteen is a benefit to the Army; this good is as nothing when put in the balance with the evil moral influence that its establishment is bound to have on the people at large. He has narrowed his consideration of the question to the Army and forgotten the nation of which the Army is only a very small part.

The brewers are for this bill heart and soul and the canteen should not be reestablished for this reason. The bill before Congress was introduced by Mr. Bartholdt, who comes from the exceedingly wet city of St. Louis—one of the citadels of beer. Mr. Bartholdt's political welfare is very much in the hands of the beer interests of his city. He has to work for and not against those interests. As a business proposition, brewers want to sell as much beer as possible and will naturally do that which will promote this business; they are not against the canteen but for it. They would like to see the government go into the business of selling beer in the Army, as that would be a declaration that beer is a temperance drink and its influence would be to increase the sales on the outside. The brewers, Mr. Bartholdt and some of our strictly temperate medical confrères are working side by side; these last are unconsciously pulling the chestnuts out of the fire for the brewers. In war, do not do what the enemy wants you to do.

The drinking habit should not be taught to those who are free from that habit. Yet that is what we shall be guilty of when we reestablish the canteen. Many young soldiers do not drink on entering the service. They have not yet formed the alcohol habit; if, however, they find beer in the canteen they are likely to jump to the conclusion that if Uncle Sam has gone into the business of selling beer on his premises, it must be very respectable and improving to drink; then comes moderate drinking which is very likely to be increased with all the attendant evils. Temptation should not be placed before the soldier.

Dr. Keen states in his letter that the late Dr. James Nevins Hyde of Chicago told him that he was treating seven physicians at that moment for accidental syphilitic infection. That

is a great number in the practice of a single individual to be accidentally infected, and very likely all were infected by civilians and not by soldiers; yet Dr. Hyde did not think of asking the city of Chicago to establish canteens to keep her citizens from drinking too much.

In Dr. Keen's circular to Congress is the following quotation: "In 1901, a committee of seven, under the auspices of the Medical Society of the County of New York, made an investigation into the prevalence of venereal disease, and concluded that there were not less than 243,000 cases of venereal diseases treated in one year in that city." That is an appalling number in comparison to the number in the Army. Our Army has 60,000 men scattered over our possessions and if the venereal infection rate was 8.46 per cent. in 1897, increasing to 19.7 per cent. in 1910, that would mean about 12,000 cases in the Army in 1910. Compare 12,000 cases in the Army with 243,000 cases treated in one year in New York City only. Where does the peril to the wives and children of our land come from? Is it from the 12,000 soldiers or from 243,000 civilians in New York City and a like proportion in the thousands of towns and cities of our country? I have not heard that anyone has asked for canteens in New York City or made any other move to save the wives and children of those 243,000 civilians. The number of cases in the Army is a mere bagatelle to the number outside.

If we compare 60,000 civilians with 60,000 soldiers, age for age, I believe that we shall find venereal disease as prevalent outside the Army as in it. Here is another quotation from the previously mentioned circular: "The statistics collected in 1908, by the President's Homes Commission, show that out of 274,611 patients treated in the city hospitals of Washington there were 27,947 cases of venereal disease." This is over 10 per cent. of the hospital admissions. Is there not every reason to believe that two or three times this number were at the same time treated outside of those hospitals? Why not ask the commissioners of the District of Columbia to introduce some regulated canteens in Washington to promote temperance and thereby save the "wives and children"?

A few of our leaders in medicine are desirous of promoting temperance among soldiers. Why not advocate a law heavily fining anyone for selling alcohol to a soldier in uniform? Many railroads forbid their employees from drinking, or boarding in houses where intoxicants are sold, and thus they effectually control their men. Cannot Uncle Sam with his strong arm do as much for his soldier boys as the railroads do for theirs? No one will object to the government's furnishing the soldiers with entertainment rooms; that should be done, but the government should not go into the business of selling alcohol. The people of this land will not consent to it and they will be fighting it to the "crack of doom"; they believe in taking temptation away from the young instead of placing it before them.

Dr. Keen does not drink himself or give others drink; his example is powerful; I admire him for this; I wish all physicians would set such an example for their communities. The medical profession is in a position to bring about a great temperance reform with its attendant lessening of venereal disease if its members will open their eyes and seize the opportunity. If Dr. Keen with his influence aided by a hundred of the leaders in our profession would come out and teach the people that the predominant action of alcohol is anesthetic and depressing; that its use as a medicine has practically been done away with; that it does infinitely more harm than good; the day would soon come when Dr. Keen could, as he said in his letter, "nail up the doors of every saloon and put on them placards 'To Rent For Some Decent Business'." The present efforts to do something for 12,000 soldiers and nothing for the hundreds of thousands—perhaps better say millions—of civilians makes one feel that some of our medical friends are "saving at the spigot and wasting at the bunghole."

Every member of the profession who believes that no kind of alcoholics should be sold in the canteen should, as a patriotic duty, write immediately to his representative and senator and to any one in either branch of Congress whom he may know or be able to influence, and especially to the Committee on Military Affairs of the House and also to the chairman of the same committee in the Senate, urging them not to permit the sale of beer in the Army canteen. Write now. Do not delay.

J. AMBROSE JOHNSTON, M.D., Cincinnati.

Medical Education and Obstetrics

To the Editor:—I was much interested in Dr. Williams' article, "Medical Education and the Midwife Problem in the United States" (THE JOURNAL, Jan. 6, 1912, p. 1). I especially noted the sentence, "After eighteen years' experience in teaching what is probably the best body of medical students ever collected in this country, ... I would unhesitatingly state that my own students are unfit on graduation to practice obstetrics in its broad sense, and are scarcely prepared to handle normal cases." If this is true at the Johns Hopkins, it would seem that Dr. Williams is himself responsible for an unfortunate state of affairs, for he admits that he has the care of the instruction of good students, and to my knowledge, he has a fair-sized ward, and two years are, or were, allowed to perfect the students in this art. In my opinion the whole trouble lies in the fact that too much time is consumed in the theoretical, and not enough given to the practical portions, which are in the end of such paramount importance. These subjects are dismissed with too few lectures and clinical conferences. Hours are given to preparing slides and studying the microscopic appearances of the pregnant uterus, the development of the ovum and such subjects; and what, pray, was the use of all this if it did not lead in the end to the production of a man far more efficient than a midwife?

Many of the students that Dr. Williams says are scarcely competent to treat a normal case could write very learnedly on such subjects as "Peter's ovum," the development of the decidua, syphilis in the new-born, etc., but when it comes to rendering efficient service to the patient, who is not at all interested in the above, they fall down.

This misappropriation in the apportionment of time in the teaching of clinical obstetrics is reprehensible, and it would seem that Dr. Williams should hold himself blameworthy for persisting for eighteen years in a method of teaching which still evolves students who are, according to Dr. Williams, "unfit on graduation to practice obstetrics in its broad sense, and are scarcely prepared to handle normal cases." Dr. Williams confesses that he has had good students, and it would seem that if he has not succeeded in turning out men who can render efficient service in more than normal cases, he must be an unpractical teacher, or else obstetrics must be such a difficult art that the man who could tackle it successfully would have to be born, and not made; if this is the solution of the problem, the question arises: What is the use of carrying the body of medical students through the slough of obstetrical despond? What is all this labor for? Since it does not lead, according to Dr. Williams, to the production of competent obstetricians, one is forced at any rate to admit that it has proved to be an efficient time-consumer and memory-tester. But we have hopes of better things. Very abundant practical drills, and repeated quizzes on the practical side are imperatively demanded. We want practical theorists, and not theoretical practitioners. Topsyturviness, the all-prevailing evil in modern medical education, calls for correction, if medicine is to continue to be "that branch of knowledge which has to do with the efficient care and treatment of the sick and infirm," and obstetrics is a most worthy branch of the healing art in which to inaugurate the new policy of "sane methods in the instruction of medical students."

B. B. BROWNE, Annapolis, Md.

[The above was submitted to Dr. Williams, who replies:]

To the Editor:—I have read with interest Dr. Browne's criticism of my article. It seems to afford substantial proof of the correctness of my contention that my own students "are scarcely prepared to handle normal cases." His indictment is in many respects justifiable, and it was in great part owing to my recognition of the conditions of which he complains that the article was written.

With few exceptions, even the best medical schools in the country are not adequately equipped for practical instruction in obstetrics, and their lying-in wards do not even compare with those of the smallest German universities in equipment, number of patients or properly trained assistants. This is due to several factors: lack of means, lack of appreciation by medical faculties of the importance of obstetrics and the lack of properly trained teachers. Where the latter exist, they recognize the shortcomings of their department, and, realizing the impossibility of giving sufficient practical training to develop competent obstetricians, are forced to be content with making their course in great part a matter of mere medical culture.

The conditions at the Johns Hopkins Medical School illustrate the state of affairs generally existing in our better medical schools. Here we have a small and poorly equipped service, housed in a portion of a building originally constructed as an isolating ward, with accommodations for little more than one-third of the number of patients necessary for the instruction of our comparatively large classes, so that with the best will in the world and the greatest care in the utilization of the material, it is barely possible for each student to witness five deliveries.

Under such conditions, it is impossible to give each student more than a very general idea of the practical side of the subject. Consequently, all that I can hope to do is to teach that a broad field exists with whose rudiments they are scarcely acquainted, and I am content to have the students go away knowing that babies are usually born through the vagina and are sometimes suckled by their mothers, and I am especially delighted to learn that some remember in after years that they had ever heard of an early ovum, the decidua or fetal syphilis.

J. WHITRIDGE WILLIAMS, Baltimore.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PROTEID PERCENTAGE IN MILK

To the Editor:—Is there any method worked out by which it is possible to estimate the percentage of proteids in milk by coagulating them with a reagent and throwing them down in a percentage tube of a centrifuge? C. MAYFIELD, Hutchinson, Kan.

ANSWER.—The following is the method of Woodward:

The milk is placed in two small separatory funnels or milk burettes, holding 5 c.c. each, and allowed to remain in the incubator for from eighteen to twenty-four hours. At the end of this time the fat of the milk will have risen to the top in the form of a thick, viscid layer, leaving the proteid and the sugar in solution below. The tubes are allowed to cool and the milk is drawn off into small Esbach tubes, a sufficient quantity of the reagent added, and the tubes centrifuged for a few minutes until the height of the precipitate remains constant. The amount of albumin may then be read off from the graduations on the tube in parts per thousand. It is evident that the method is only approximate, as the errors of the Esbach method are very considerable.

CAMPHORATED OIL IN PULMONARY TUBERCULOSIS

To the Editor:—On page 1808 of THE JOURNAL, Nov. 25, 1911, is a brief abstract of an article on "Camphorated Oil in Pulmonary Tuberculosis." I would like to learn more about this. What kind of oil was used with the camphor? When 24 or 30 gm. were injected in twenty-four hours, was it all given at one injection, or, if not, how many, and the size doses? In what parts of the body were the injections made? What was the object of these injections, to sustain the heart or to act in some other way?

J. A. BURNETT, Marble City, Okla.

ANSWER.—Volland's idea in injecting camphorated oil in pulmonary tuberculosis is to sustain the heart permanently. He says that camphor is coming into its own again after too long neglect, especially in acute infections, pneumonia in particular. Volland's first communication on the subject was published in the *Therapeutische Monatshefte*, February, 1906, while in his latest communication in the same periodical, October, 1911, he confirms and reiterates his early statements. He says that in his extensive experience he has never witnessed any harm from the injections, any local or general reaction or signs of intoxication. The introduction of the needle and of the oil is liable to be painful to some. A transient blister formed in one case in which 300 injections had been made under the skin of the front of the thigh. Volland injects about 1 c.c. morning and evening or two such doses at one time in some cases. In others he injects three doses at once, or two morning and evening, thus, 0.4 gm. camphor in the twenty-four hours. In one case with recurring hemoptysis, the hemorrhage ceased when the camphorated oil was injected every two hours, night and day, and the pulse dropped from 130 to 80 by the second day. The Kampferoel of the German Pharmacopeia is made by warming 1 part camphor in 9 parts olive oil in a stoppered flask, until dissolved, and then filtering.

INEXPENSIVE MASSAGE CREAM

To the Editor:—Kindly give a formula for an inexpensive massage cream. R. T. WILLIAMS, Detroit.

ANSWER.—For many years the so-called "cold cream" of the character of the U. S. P. unguentum aquæ rosæ was mainly used as a skin application, but recently the tendency has been to use more or less "greaseless" cosmetics. These creams are of two general types: (1) the "casein type"; and (2) the "stearic acid type," the former widely known as "massage cream" and the latter as "vanishing cream". As examples of these preparations the *Druggists Circular*, January, 1910, published the following (the average user will, of course, wish to prepare only a fraction of the quantity):

"1. Skimmed milk	1 gallon
Powdered alum	1 ounce
Boric acid	3 drams
Glycerin	3 ounces
Oil of bitter almond	20 minims
Oil of rose geranium	10 minims
Carmin solution	enough

"Heat the milk to about 170 F. Dissolve the alum in 4 pints of hot water and add it to the milk slowly, with constant stirring. Continue the heat and stirring until precipitation is complete. Let the mixture stand until cool, pour off the clear liquor, add to the precipitate 1 gallon of water, stirring and breaking up the magma as much as possible. Allow this to stand until the precipitate separates, then pour off as much as possible of the water, collect the precipitate on a cheesecloth strainer, squeeze out all the water possible, then dry the precipitate without artificial heat between sheets of blotting paper. Place the casein in a large mortar, add the glycerin, in which the boric acid has been dissolved, and beat and rub the casein until it is perfectly smooth and soft. Let the mass stand for six hours, pour off the water that separates, then beat in the oils and carmin, adding a little more glycerin if necessary to bring to the proper consistence."

"2. Stearic acid	12	ounces
Glycerin	12	ounces
Water	24	ounces
Potassium carbonate	4	drams
Borax	1½	drams
Powdered tragacanth	4	drams
Perfume		enough

"Place the glycerin in water bath, heat to 150 F., and add the tragacanth previously rubbed with a little alcohol. Then add the stearic acid, continue the heat until the acid is melted, and add the borax and potassium carbonate, dissolved in hot water. Stir until the mass begins to set, and add the perfume."

FULGURATION IN CANCER

To the Editor:—In this department of THE JOURNAL (Dec. 30, 1911, p. 2157), fulguration in the treatment of cancer is described as "a treatment by burning with an electric spark."

Those who have followed the work of Dr. de Keating-Hart in Paris and those who witnessed his demonstrations at the New York Skin and Cancer Hospital, or listened to his lectures in this and other cities during his recent visit to this country, know that he emphasized over and over that when the long spark of the high-frequency and high-tension current is employed according to his method, to which he has given the name "fulguration," there is no burning of the tissue. He repeatedly stated that if burning takes place actual harm is done. In order to prevent this the electrode is kept in constant motion and a current of cool, sterilized air passes through the electrode and blows over the surface being treated. There is no change in the color of the tissues fulgurated with the exception of a slightly darker yellow taken on by the fat. This change is always a signal for discontinuing the treatment.

Dr. de Keating-Hart also repeatedly emphasized the difference between the application of the high-frequency current by means of the short spark as ordinarily used and that of the long spark which he employs. The former, according to his theory, stimulates cancer cell activity, whereas the latter, by its action on the trophic nerve-

supply of the tissues constituting the soil of cancer, tends to prevent further development or recurrence.

Fulguration is being carefully tested in various centers abroad, and at the New York Skin and Cancer Hospital, where the de Keating-Hart apparatus has been installed. A full report of the work at the hospital will be published in due season. It is but fair to Dr. de Keating-Hart, the originator of the method, and to those who may be interested in it that the foregoing error be corrected.

WILLIAM SEAMAN BAINBRIDGE, M.D.,
Secretary, Committee on Scientific Research, New York Skin and Cancer Hospital.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Jan. 20, 1912.

Stallman, George E., dental surgeon, reports for temporary duty at Fort Clark, Tex.

Sherwood, Charles E., acting dental surgeon, reported for duty at Presidio of Monterey, Cal.

Fisk, Owen C., lieut., ordered before an army retiring board at Washington, D. C., for examination.

Schmitter, Ferdinand, captain, orders to Fort Clark, Texas, revoked, and instead will proceed to Fort Grobie, R. I., for duty.

Straub, Paul F., major, ordered to report to the examining board at the Army Medical Museum Building in this city for examination to determine his fitness for promotion.

Wallace, George S., M.R.C., relieved from duty at Fort Sam Houston, Tex., and ordered to Fort Clark, Tex., for duty.

Straub, Paul F., major, relieved from duty, general staff, this city, to take effect March 13, and will then proceed to the Philippine Islands for duty.

Phalen, James M., captain, will proceed to Albany, N. Y., to deliver an address on the work done in the Army with typhoid vaccines at the meeting of the Homeopathic Medical Society of New York, Feb. 12 and 13, 1912.

Ingalls, Raymond E., dental surgeon, ordered to proceed from temporary duty at Fort Missoula, Mont., to Boise Barracks, Idaho, for temporary duty.

Feely, James F., acting dental surgeon, reports for temporary duty at Fort Hancock, N. J.

Tetrault, Charles A., M.R.C., reported for temporary duty at Fort Adams, R. I.

Waterhouse, Samuel M., major, granted three months' leave of absence, with permission to go beyond the sea.

Mason, George L., dental surgeon, reported for temporary duty at Fort Des Moines, Iowa.

Brewer, Isaac W., M.R.C., ordered to Fort Porter, N. Y., for temporary duty.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Jan. 17, 1912.

White, J. H., surgeon, granted one month's leave of absence, without pay, from Jan. 15, 1912.

Ebert, H. G., P. A. surgeon, relieved from duty in the Philippine Islands and directed to proceed to San Francisco and report his arrival to the bureau.

Grimm, R. M., asst. surgeon, detailed to prepare and present a stereopticon lecture on tuberculosis at the farmers' conference to be held at the Georgia State Industrial College, Savannah, Ga., Feb. 22, 1912.

Blue, Rupert, surgeon, promoted by the President and confirmed by the Senate to be surgeon-general.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE CHOICE OF A PROFESSION BY HIGH-SCHOOL PUPILS

Throughout its entire existence, and especially during the last ten years, the American Medical Association has been interested in and working for an elevation of the standard of medical education, in order that the personnel of the profession might be kept at as high a point as possible. Much has been accomplished in raising the standards of admission to medical schools and improving the quality of the instruction therein. Little attention, however, has, so far, been paid to the problem of informing pupils and parents regarding conditions in various professions and callings, so that a boy in high school can choose his future calling and prepare for it with some knowledge of the conditions of his life work. The value and importance of such knowledge will be seen at a glance.

Evidently, this problem has been recognized abroad as well, and steps have been taken to solve it. In a recent issue of the *Berliner Tageblatt* appears an article on the choice of a profession, by Dr. Henry Schmidt, in which are described the efforts made at Lüneburg to fill this gap in the educational system. Dr. Schmidt says that it has frequently been noted that high-school graduates leave the selection of their future profession largely to chance.

To correct this evil the superintendent of the gymnasium at Lüneburg has arranged series of lectures to the upper classes in his school, explaining the work of the different professions and the personal qualities required for success, as well as the amount of time, labor and expense required to prepare for a career in each. The parents of the children are invited to attend and take part in the discussion. The first address was delivered by the superintendent, who discussed the relative advantages of professional versus mechanical pursuits, and the cost of preparation versus compensation. The value of a classical education in business and technical callings was also considered, as well as the qualifications for scientific work, the advantages of an official career, etc. The superintendent emphasized the expensive character of a modern professional education and advised students against beginning a career with a load of debt. The demands, prospects and conditions of the various professions were discussed by a lawyer, a minister and a teacher. In the discussion which followed it was found that parents had vague ideas as to the time and expense required to train a son for professional work and especially as to the length of time before a young man could hope to become self-supporting. It is planned to continue this series of lectures in Lüneburg as the trial clearly demonstrated their value. Dr. Schmidt expresses the hope that statistics may be compiled and published on this subject, so that young men may select their calling with a full knowledge of the limitations and possibilities. Other professional men, including a physician, a statistician, a university professor, an army officer, merchants, chemists and political office-holders have offered to speak. The first lecture demonstrated the value of the plan, as many students changed their plans entirely, owing to the information received.

While the idea of vocational guidance in secondary schools and colleges is not a new one in this country—it has in fact, we believe, been applied in a more thorough and practical fashion in Boston than in Lüneburg—it has not yet received the general recognition it deserves. If young men knew better the requirements and conditions of various callings, they could plan their future to far better advantage than at present. While this is true of all professions it is particularly true of the practice of medicine. Many a boy has decided to become a physician and has been sent by his parents to a medical school with no conception of the expense, the time and the labor required to secure an adequate medical training. Many a poor boy has toiled hard for years to secure his medical training and has gone heavily in debt, thinking that his trials would be over as soon as he secured his diploma and that he would have plain sailing as soon as he "hung out his shingle," only to learn, when too late, that the hardest financial trials were yet to come and that it might take years for him to secure a comfortable income. It is impossible to say how many young physicians have been forced into quackery and charlatanry, or into the slimy path of the abortionist, by financial difficulties which they did not expect.

The enlightenment of the public on this question is of the utmost importance. It is the duty of educators and other professional men to see that students and parents are informed so that the young men who select a professional career may do so with a full knowledge of the facts.

Practical Limitations in Medical Education.—In a medical school, as in other institutions of technical education, the emphasis must be placed on what has been confirmed by experience, on what is well known and established. To point out repeatedly what is known, or where lie the boundaries between our knowledge and our ignorance, may be an interesting intellectual exercise, but it does not alleviate the sufferings of the sick or help to meet any immediate practical emergency. Nevertheless, it is our ignorance of disease and its conditions that limits absolutely our effective grappling with many of the most distressing afflictions of mankind, says W. B. Cannon in *Science*.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

General Subject for the Month: Diseases of the Blood and Ductless Glands

Sixth Month—First Weekly Meeting

ANATOMY AND PHYSIOLOGY OF THE BLOOD

Blood plasma, blood serum and defibrinated blood. Reaction of blood, cause, method of determination. Specific gravity, method of determination, variations, causes.

RED CORPUSCLES: Structure. Stroma. Hemoglobin, form in corpuscle, percentage of corpuscle. Globin, hematin, hemochromogen. Combination of hemoglobin with gases. Origin of red corpuscles, changes in bone marrow. Destruction of red corpuscles, facts for and against spleen, probable site.

WHITE CORPUSCLES:

I. LEUKOCYTES. Varieties; (a) transition forms, (b) polymorphonuclear, (c) mast cells. Normal number, physiologic leukocytosis. Functions of leukocytes: (1) phagocytosis, (2) aid in absorption of fats and peptones, (3) aid in coagulation of blood, (4) help supply proteids of blood-plasma.

II. LYMPHOCYTES. (a) Small, (b) large lymphocytes.

BLOOD PLATES: Size, shape, possible functions.

BLOOD PLASMA: Chemical composition, proteins, extractives, salts, enzymes. Coagulation of blood. (1) Fibrinogen, (2) prothrombin, (3) calcium salts, (4) thrombin, (5) fibrin. Retardation of coagulation. Antithrombin.

PHYSIOLOGY OF THE SPLEEN

Histologic structure of spleen. Nerve supply. Rhythmic contractions. Theories of function: (1) formation of red corpuscles, (2) destruction of red corpuscles, (3) production of uric acid, (4) production of enzyme.

PHYSIOLOGY OF BONE-MARROW

Histologic structure of red marrow. Nucleated corpuscles, non-nucleated cells. Changes in marrow after hemorrhage.

PHYSIOLOGY OF LYMPH GLAND

Histologic structure. Origin of lymphocytes.

REFERENCE BOOKS FOR THE SIXTH MONTH

Text-Books on Practice of Medicine.
Hunter: The Severest Anemias.
Osler's Modern Medicine, vol. iv.
Bramwell: Anemia.
Buchanan: The Blood in Health and Disease.
Cabot: Diseases of the Blood.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: Capitol Bldg., Des Moines, February 6-8. Sec., Dr. Guilford H. Sumner, State House.

KANSAS: National Hotel, Topeka, February 13. Sec., Dr. H. A. Dykes, Lebanon.

NEBRASKA: State House, Lincoln, February 14-15. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

NEW YORK: January 30-February 2. Chief of Examinations Division, Mr. Harlan H. Horner, Albany.

Michigan October Report

Dr. B. D. Harison, secretary of the Michigan Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 10-12, 1911. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 10, all of whom passed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1911)	79.7
Rush Medical College	(1911)	77.7
University of Michigan, Dept. of Med. and Surg.	(1911)	80.3, 81.2
University of Michigan, Homeopathic College	(1911)	81.2, 86.7
Detroit College of Medicine	(1911)	76
Johns Hopkins University	(1911)	89.3
Trinity Medical College, Ontario	(1898)	90.6
University of Paris, France	(1911)	81.7

Delaware December Report

Dr. Henry W. Briggs, secretary of the Medical Council of Delaware, reports the written examinations held at Dover and Wilmington, Dec. 12-14, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 7, all of whom passed. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Howard University, Washington, D. C.	(1911)	82.9
University of Maryland	(1908) 87; (1911)	84.4
New York Homeo. Med. Coll. and Hosp.	(1911)	89.7
Medico-Chirurgical College of Philadelphia	(1911)	84.9
University of Pennsylvania	(1894)	79.9
Hahnemann Med. Coll. and Hosp., Philadelphia	(1911)	87.2

LICENSED THROUGH RECIPROCITY			
College	Year Grad.		Reciprocity with
Howard University, Washington, D. C.	(1909)		Dist. Colum.
University of Maryland	(1890)	(1906) (1911)	Maryland
University of Pennsylvania	(1903)		New Jersey
Jefferson Medical College	(1904)		Penna.

Pennsylvania December Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia and Harrisburg, Dec. 12-15, 1911. The number of subjects examined in was 7; percentage required to pass, 75. At the examination held by the State Medical Society of Pennsylvania at Philadelphia, the total number of candidates examined was 67, of whom 60 passed and 7 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
University of Colorado	(1897)	1
Georgetown University	(1911)	2
Howard University, Washington, D. C.	(1909) (1911, 2)	3
College of Physicians and Surgeons, Chicago	(1905)	1
University of Louisville	(1911)	2
Coll. of P. and S., Baltimore	(1910, 2) (1911, 2)	4
University of Maryland	(1903) (1910)	2
Maryland Medical College	(1911)	1
Johns Hopkins University	(1907) (1909)	2
Woman's Medical College of Baltimore	(1904)	1
Long Island College Hospital	(1901)	1
University of Buffalo	(1911)	1
University of Pennsylvania	(1910, 3) (1911, 2)	5
Woman's Med. College of Pennsylvania	(1909) (1911)	2
Temple University, Philadelphia	(1911)	4
Medico-Chir. Coll. of Phila.	(1910, 2) (1911, 10)	12
University of Pittsburgh	(1910, 2) (1911, 6)	8
Jefferson Medical College	(1909) (1910) (1911, 5)	7
University of Toronto, Ontario	(1910)	1

FAILED		
College	Year Grad.	Per Cent.
University of Louisville	(1911)	64.7, 73.2
Baltimore University	(1899) 73.6; (1900)	63.3
Leonard Medical School	(1911)	71.6
University of Berlin, Germany	(1902)	23.9
National University of Greece	(1907)	68.8

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 5, all of whom passed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Hahnemann Med. Coll. and Hosp., Chicago	(1909)	1
Dunham Medical College, Chicago	(1902)	1
Cleveland-Pulte Medical College	(1911)	1
Cleveland Homeopathic Medical College	(1890)	1
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	1

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 15, all of whom passed. The following colleges were represented:

PASSED		
College	Year Grad.	Total No. Examined.
Bennett Medical College, Chicago	(1911)	1
Baltimore University	(1895)	1
Maryland Medical College	(1910, 3) (1911, 4)	7
University of Naples (1899) (1901) (1907) (1910) (2 without year given)		6

Book Notices

SCIENTIFIC FEATURES OF MODERN MEDICINE. By Frederic S. Lee, Ph.D., Dalton Professor of Physiology, Columbia University. Cloth. Price, $1.50. Pp. 183. New York: Columbia University Press, 1911.

"Scientific Features of Modern Medicine" is the general title of the Jesup lectures delivered at the American Museum of Natural History, New York, in February and March, 1911. The series consisted of eight lectures here published in book form. Professor Lee has the happy faculty of being able to present dry scientific subjects in a manner to be understood and appreciated by the average intelligent layman. In this series of lectures Professor Lee's object was—and he eminently succeeded—to present those phases of modern medicine which illustrate its genuine scientific character, and to emphasize the radical difference between the empiricism of the past and the progressive scientific principles on which modern medicine now rests and is developing. The first lecture is devoted to a brief sketch of the physiology of the human body; the next to its pathology, disease and modern methods of diagnosis; the third lecture considers the methods or principles of treatment. This leads up to the two most interesting and important of the lectures, that on "Bacteria and Protozoa and their Relation to Disease"; and that on the "Treatment and the Prevention of Infectious Diseases." It is in these two lectures that Professor Lee shows what practical results have come from the application of modern scientific methods in the treatment of certain diseases. The remaining lectures are on the "Problem of Cancer and other Problems," "Modern Surgery," the "Rôle of Experiments in Medicine," and the "Public and the Medical Profession." While the book is primarily for laymen, it will be found of interest to physicians and an encouragement to those who are striving to keep up with the rapid progress medicine is making to-day.

SYPHILIS FROM THE MODERN STANDPOINT. By James McIntosh, M.D., Grocers' Research Scholar, and Paul Fildes, M.B., B.C., Assistant Bacteriologist to the London Hospital. Cloth. Price, $2 net. Pp. 227, with illustrations. New York: Longmans, Green & Co., 1911.

This book represents one of the most advanced outposts of those valiant warriors of science who are ready to attack any problem of clinical medicine with laboratory ammunition alone. Its clinical basis, as far as appears, rests "on clinical observations [presumably as voluntary onlookers] at the hospital St. Louis and others," and "the material attending Dr. Sequeira's dermatologic clinic [at the London Hospital] in addition to cases under the medical and surgical staff in the general wards of the same and other hospitals" [here presumably also as irresponsible attendants]. In other words, we have two bacteriologists, with exuberant laboratory assurance, who write on syphilis as a human disease, with an experience with the disease such as is attainable by any medical student who will go to Paris and London and spend a while as a voluntary attendant in some of the clinics for skin diseases. We have long known that some laboratory men have a contempt for familiarity with diseases as they manifest themselves in living human beings, but we confess to the feeling that common courtesy demands before one writes on a given disease he at least should have a first-hand acquaintance with it.

This laboratory cock-sureness is the hopeless mistake of the book. While realizing acutely the possibility of mistakes in clinical observations—which is, alas, too true—the authors fail to realize that laboratory observations, too, are human and liable to error; so that . . . "this book . . . is intended to be based, not on probability, but certainty, ..." And so they make the diagnosis of a chancre depend on "certainty" by demonstrating the *Spirochæta pallida* with the dark-ground illuminator, although on the opposite page they publish an illustration of the *Spirochæta pallida* under dark-ground illumination, which would certainly lead an observer into confusion if he used it as a picture of the pathognomonic organism. In the same way, while deploring the clinician's human liability to err, so that "we have been compelled to view the writings of many admirable (but presumably unreliable) observers with suspicion," they exact that the Wassermann findings be looked on as final, forgetting that they too are necessarily made by human, if "scientific" hands, and so are open to suspicion of fallibility—to say nothing of the fact that the test is one that requires for its accuracy the most exact system of controls, and is most open to mistake if these are not always scrupulously carried out; so much so that at the present time a large proportion of so-called Wassermann findings are worthless—not through fault of the test, but of its performance.

The chapters that have to do with laboratory subjects are useful summaries of current facts. The considerations of the *Spirochæta pallida*, of the histopathology of syphilis, of the Wassermann reaction—all of which are dealt with with considerable fulness—are good, except when the authors try to go beyond their field and offer opinions on the clinical aspects of syphilis. The consideration of salvarsan is neither full nor representative of present opinion, but in the rapidly changing state of that subject this is not to be wondered at.

On the whole the book is unfortunate, as contributing to the tendency, already too common, to disregard all we have learned of the most carefully studied disease and to sail off blandly into the unknown, under the sole guidance of recent, epoch-making but incomplete observations. The book adds nothing to what is already known, but considerable to what is not.

DER HARN SOWIE DIE UEBRIGEN AUSSCHEIDUNGEN UND KÖRPERFLÜSSIGKEITEN VON MENSCH UND TIER. Ihre Untersuchung und Zusammensetzung in normalem und pathologischem Zustande. Ein Handbuch für Aerzte, Chemiker und Pharmazeuten Sowie zum Gebrauche an Landwirtschaftlichen Versuchsstationen. Herausgegeben von Carl Neuberg, Universitätsprofessor und Abteilungsvorsteher am Tierphysiologischen Institut der Königl. Landwirtschaftlichen Hochschule Berlin. Parts 1 and 2. Paper. Price, 58 marks. Pp. 1823, with illustrations. Berlin: Julius Springer, 1911.

This is a most comprehensive work in two large volumes of nearly a thousand pages each. The author's aim, as expressed in the preface, is to combine in a handbook everything which relates to the chemical examination of these products. He has even gone further and included physicochemical microscopic and colorimetric methods. The first volume is devoted entirely to the urine; the second to the blood, bile, milk, feces, lymph and other body fluids. The work is technical in character and reviews in detail practically every recognized method of analysis of the various substances considered. While the origin and nature of many of the constituents of the body fluids, secretions, excretions, etc. are discussed, the clinical side of the subject is very lightly touched on. The work, therefore, is one for the advanced laboratory worker, who will find in it an almost endless fund of information.

MICROBIOLOGY. For Agricultural and Domestic Science Students. Edited by Charles E. Marshall, East Lansing, Mich., Professor of Bacteriology and Hygiene, Michigan Agricultural College. Cloth. Price, $2.50 net. Pp. 724, with 128 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This text-book, the product of several hands, is characterized by a remarkable unity of thought and expression without repetition; besides, it does not show the common weakness of emphasizing some features unduly while other features of importance are scarcely mentioned. Laboratory features of microbiology receive only necessary mention, and no space has been given to laboratory exercises. In Part I are considered the morphology and culture of molds, yeasts, bacteria, protozoa and a brief general discussion of what is known of so-called invisible organisms. In Part II are discussed nutrition and metabolism; physical and chemical influences and mutual influences, such as symbiosis, metabiosis and antibiosis. In Part III the microbiology of air, water, sewage, soil, milk and of special industries, such as preparation and preservation of foods, food poisoning, alcohol, vinegar, serums and vaccines are fully discussed. The microbial diseases of man, animals and plants and the control of infections are taken up in the concluding chapters. The arrangement is an admirable one, the text abounds in useful tables and good illustrations and it is all good reading, probably because the prime motive in the preparation of the book was to furnish reliable information to the agriculturist, the economist and others. The author, being himself an agriculturist, naturally presents strongly

that phase of the subject. While this is not a text-book for the student of medicine, at the same time he can secure much information from it which may prove exceedingly useful as correlated knowledge.

TEXT-BOOK OF OPHTHALMOLOGY. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized Translation from Twelfth German Edition by Alexander Duane, M.D., Surgeon Ophthalmic and Aural Institute, New York. Fourth Edition. Cloth. Price, $6. Pp. 989. Philadelphia: J. B. Lippincott Co., 1911.

This popular book has apparently lost none of its attractions in this fourth American edition. About sixty pages of text and a number of illustrations have been added, indicate Professor Fuchs' extensive experience and good judgment in the field of ophthalmology. The added pages deal in particular with the pathology, symptomatology and therapy of eye diseases as well as with the physiology of the ocular apparatus.

The translator's task has been well performed, and Dr. Duane's own contributions serve, on the whole, to bring the work into conformity with what may be regarded as American views of ophthalmic science and art. While it is true that the general principles that underlie the surgery of the eye are universal, yet certain ocular diseases peculiar to or more frequently encountered in this country than in Europe require exposition by domestic authorities. Furthermore, these views have been properly and carefully presented by the translator under his own signature. With the remainder of the text they constitute a safe guide for the student, both special and general.

The book is much beyond the average in type, illustration, paper and binding.

LIFE, DEATH AND IMMORTALITY. By William Hanna Thomson, M.D., LL.D., Author of "Brain and Personality," etc., Consulting Physician to the Roosevelt Hospital, New York. Cloth. Price, $1 net. Pp. 117. New York: Funk & Wagnalls Co., 1911.

A distinguished German physiologist, Professor Verworn, recently lecturing in this country, is reported to have said, "The phenomena of human consciousness cease with the life of the cerebral cells. Hence our individual soul is no more immortal than our individual body." Such an *ex cathedra* utterance unsupported by any possible scientific demonstration is not in accordance, we believe, with the best scientific and philosophic thought of the day or of any time. Dr. Thomson's little work is an attempt to prove the opposite view from the facts of our personality and individual consciousness supported by the universal belief and revelation. He also brings in scientific facts which he thinks bear on the subject. In this he is perhaps open to a little criticism. For example, his statements that multicellular life began with the Cambrian period and that the majority of biologists reject the Darwinian theory are rather too unqualified. His book, however, is well conceived and the arguments are clearly and readably stated. We believe that the opinions Dr. Thomson advances will be much more in accordance with those held by the great majority of our profession than those which are credited to Professor Verworn.

THE PHYSICIAN'S VISITING LIST FOR 1912. Leather. Price, $1.25. Philadelphia: P. Blakiston's Son & Co.

This handy visiting list is issued in several styles to accommodate the requirements of various practitioners. It is well made, well bound and contains the usual valuable pages of data for reference.

OPHTHALMIC YEAR-BOOK. Volume 8. Containing a Digest of the Literature of Ophthalmology with Index of Publications for the Year 1910. By Edward Jackson, M.D., Professor of Ophthalmology in the University of Colorado, Thomas B. Schneideman, M.D., Professor of Ophthalmology in the Philadelphia Polyclinic, and William Zentmayer, M.D., Attending Surgeon to the Wills Eye Hospital, Philadelphia. Cloth. Pp. 455, with 26 Illustrations. Denver: Herrick Book and Stationery Company, 1911.

This is the eighth annual volume of a useful and carefully compiled abstract of the year's activities in ophthalmology. The scope of the year-book has been somewhat widened since its earlier issues and now includes illustrated biographic sketches of recently deceased ophthalmologists, the titles of all text-books, monographs, journal articles, papers and discussions published in transactions of various societies, as well as a properly prepared digest of such ophthalmic literature as has any reasonable claim on our attention. The Year-Book is well indexed so that one may quickly refer to any subject; these subjects are not only placed under authors and subject-headings but both are given in alphabetical order. Finally, the book is well made and the printer has left little for the most censorious to criticize.

CLINICAL DIAGNOSIS. A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers and Practitioners of Medicine. By Charles Phillips Emerson, A.B., M.D., Late Resident Physician, The Johns Hopkins University. Third Edition. Cloth. Price, $5. Pp. 724, with 126 Illustrations. Philadelphia: J. B. Lippincott Co., 1911.

This book is so well known that the present edition needs no extended description. It is brought up to date by additions and corrections, and, as in previous editions, the author describes only methods which have been tried and proved valuable, not those still under criticism and judgment. This is one of the most complete text-books on the subject; not only is it a valuable reference book in the laboratory but much of it can be read with interest because of the valuable opinions of the author in regard to the conclusions which can be drawn from clinical laboratory methods of investigation.

THE HOUSE-SURGEON'S VADE-MECUM. By Russell Howard, M.B., M.S., F.R.C.S., Surgeon to Poplar Hospital, London. Cloth. Price, $2.10 net. Pp. 511, with 142 Illustrations. New York: Longmans, Green & Co., 1911.

In the limited sphere of 500 pages is contained an immense amount of information on aseptic surgery, shock and asphyxia, hemorrhage, sepsis, amputations, emergencies of all kinds as encountered in general hospital practice, the treatment of fractures, dislocations, injuries, inflammations, and what not. Of course, details are merely suggested, but much of that is often padding. The book is full of good things, the advice it contains is good and of a character to help the young intern and some who are older.

Medicolegal

Power of State Board of Health to Prohibit Bathing in Pond from which City Water-Supply is Taken —Court Takes Notice of Germ Theory of Disease

(State vs. Morse (Vt.), 80 Atl. R. 989)

The Supreme Court of Vermont holds valid a regulation promulgated by the State Board of Health which provided that no person should bathe or swim in Berlin Pond or its tributaries or outlet, the city of Montpelier taking its water-supply from the pond, which had an area of about 360 acres. Nor was it necessary for a member of the board actually to erect the notice; this might properly be intrusted to another. The suggestion was also without merit that conditions were shown to be such that other sources of contamination existed left untouched by the regulations of the board, more serious than those here involved. The fact that others were befouling these waters afforded no excuse or defense to the defendant, who at the time in question was the lessee of a certain cottage, the land connected with which lay along and included a part of the shore of the pond.

Granting that a riparian owner has a right to the reasonable use of the water of such a pond, the court does not think that it can be said that it is always and under all circumstances a reasonable use of such waters to bathe therein. Reasonable use varies with circumstances. If bathing in a pond from which a city takes its water-supply contaminates, or in circumstances reasonably to be apprehended may contaminate, such waters thereby endangering the health of the community, it cannot be said that the riparian owner is making a reasonable use of his incidental right. Such use in such circumstances may be prohibited in a valid exercise of the police power. The owner's rights are not then "taken"

in a constitutional sense; or, if this statement savors too much of refinement of reasoning, as some suggest, the "taking" is not such as the constitution prohibits.

Regulations for the protection of the public health are looked on with favor. Every reasonable presumption is made in favor of their validity, and "every intendment is indulged to sustain them." This presumption attaches to each element essential to their validity. So their reasonableness is presumed.

The court is not satisfied, and cannot say, that the regulation prohibiting bathing in Berlin Pond was a palpable violation of the defendant's rights; nor can it from the record, aided by facts of which it may take judicial notice, say that such prohibition was unnecessary or unreasonable. On the contrary, it takes notice of the germ theory of disease, and that the human body may give off germs dangerous to the public health, and that, should these reach the intake of the water-supply, they might, as suggested by the State Board, spread contagion throughout the city. Wherefore, the court's conclusion is that, on principle and authority, the action of the State Board of Health was not only a wise, but a valid, exercise of the police power, lawfully delegated to the board, and that the defendant's conviction of violating the regulation must stand.

Death from Pulmonary Tuberculosis Eight Months After Injury—Certified Copy of Death Certificate as Evidence

(*Healy vs. Hoy* (*Minn.*), *132 N. W. R. 208*)

The Supreme Court of Minnesota affirms a judgment for damages for the death of a man who, while working as a plumber, was injured and died some eight months thereafter of pulmonary tuberculosis. The court says that there was evidence tending to show that at the time of the accident the man was 43 years old, weighing 188 pounds, in sound health, and a big, robust man. As a result of the accident his scalp was torn, a portion of the frontal prominence of the skull shaved off, a blunt instrument driven through the mastoid bone, breaking it, and leaving a severe wound in the back of his head, and the fifth nerve severed. He also sustained a severe shock and concussion of the brain. These injuries caused disuse of the lower part of his face, a difficulty in opening his mouth, and an inability to masticate his food. He was confined to the hospital one month, but was disabled until the time of his death, and steadily lost in weight. There was opinion evidence on behalf of the plaintiff by physicians to the effect that the cause of the existence of tuberculosis in the man was the injury he received at the time of the accident, whereby his vital forces were seriously impaired. On the part of the defendant there was opinion evidence tending to show that pulmonary tuberculosis often attacks men of robust health and kills them, and a probability that this man had pulmonary tuberculosis before the accident. The court considers that the evidence was sufficient to sustain a finding that his injuries were the proximate cause of his death. The question of proximate cause is often obscured by technical learning, but in its last analysis it is ordinarily a question of fact for the jury, to be solved by the exercise of good common sense in the consideration of the evidence in each particular case.

The court also holds that a duly certified copy of an original death certificate on file in the office of the State Board of Health is competent evidence tending to show the cause of death. The certificate in this case showed that the cause of death was pulmonary tuberculosis. It was the legal duty of the attending physician to make the death certificate and to state therein the cause of the death. It was so made; hence the original certificate was admissible in evidence, independently of any statute. The Minnesota statute as to what disposition shall be made of the original death certificate is not entirely clear; but it may be fairly construed as requiring that the original certificate shall be sent to the State Board of Health and that it becomes a part of its official records and documents, of which its executive officer, its secretary, is the custodian. Such is the practical construction of the statute by the board of health. The copy of the death certificate here in question was certified as a true and correct copy of the original record of death on file in the office of the State Board by its executive officer under its official seal. The trial court did not err in overruling the defendant's objection to the admission of the certified copy.

Rights in Dead Bodies and of Kin to Damages for Wrongful Autopsies

(*Darcy vs. Presbyterian Hospital* (*N. Y.*), *95 N. E. R. 605*)

The Court of Appeals of New York reverses a judgment which affirmed one that dismissed, as not stating a cause of action, a complaint alleging that, immediately after the death of her son, the plaintiff demanded of the defendant his body, and sent an undertaker for it, but that the defendant hospital refused to deliver it until it caused the coroner to send his physician to make an autopsy on the body, and that after the plaintiff had refused her consent to such autopsy. The court says that it must be conceded that in some jurisdictions it has been held that since there can be no property in a dead body a personal representative of a decedent cannot maintain an action for damages for the wilful or negligent mutilation of the body, although he may sue for injury to the wearing apparel. But in Larson vs. Chase, 47 Minn. 307, in which the most elaborate consideration of the question in the courts of this country appears, after an examination of the authorities both in this country and in England, the conclusion is reached that, while no action can be maintained by the executor or administrator on the theory of any property right in a decedent's body, the right to possession of a dead body for the purpose of preservation and burial belongs to the surviving husband or wife or next of kin, in the absence of any testamentary disposition; and this right the law will recognize and protect from any unlawful mutilation of remains by awarding damages for injury to the feelings and mental suffering from the wrongful acts, although no pecuniary damage is alleged or proved. The rule adopted in the Minnesota case fully meets the approval of this court, and consequently the plaintiff, it holds, being the mother and the nearest surviving next of kin to the decedent, was entitled to maintain this action for damages and to recover damages for her wounded feelings and mental distress.

The court further holds that the complaint in this case stated a cause of action, inasmuch as the New York statutes prohibit and make a misdemeanor an unauthorized autopsy, and there was nothing in the allegations of the complaint that indicated that the decedent died in a suspicious manner, or that there was reasonable ground to suspect that his death had been occasioned by criminal means or the act of another. If, however, on the trial of the case the defendant should be able to show that decedent died in a suspicious and unusual manner, and that there was reasonable ground to suspect that his death was occasioned by criminal means, it was the defendant's duty to notify the coroner, and it then became the duty of that officer to investigate, either in person or by his physician, the clinical history of the case, and, if he then had grounds to suspect criminal agency had caused death, to hold the body for autopsy. But these were matters of defense.

Liability of County on Special Contract for Employment of Alienist

(*Williamson vs. Snohomish County* (*Wash.*), *116 Pac. R. 675*)

The Supreme Court of Washington reverses a judgment rendered in favor of the defendant county on a demurrer to the plaintiff's complaint, in an action to recover from the county $950 on a contract for the plaintiff's services as an alienist in connection with the trial of a homicide case involving the defense of insanity. The complaint stated, among other things, that it was necessary in the homicide case for the prosecuting attorney to have the aid of an experienced alienist in acquiring necessary information to prosecute the case intelligently and to become a witness therein, and, under special authority from the board of county commissioners, contracted with the plaintiff therefor, the plaintiff to receive as compensation for his services $100 for the first day that he should be in attendance on the trial of the homicide case, and $50

for each day thereafter, which had been for many years the regular and customary fee for such services.

The Washington statute provides that "The several boards of county commissioners are authorized and required . . . (5) to allow all accounts legally chargeable against such county not otherwise provided for, and to audit the accounts of all officers having the care, management, collection or disbursement of any money belonging to the country or appropriated to its benefit; (6) to have the care of the county property and the management of the county funds and business. . . . ." It seems to the court that the power of the county commissioners to authorize the incurring of such an obligation as here involved is as clearly inferable from these statutory provisions as is their authority to incur expenses in the conduct of the county's business in numerous other matters, in which it is conceded they have such authority, though not specifically provided for by statute.

The court cannot agree with the contention that this contract does not involve county business, but relates to judicial business only. It does not involve the payment of any court officer's salary or the expenses of maintaining the courts. It does not involve the payment even of statutory witness fees, although it incidentally involves a witness' compensation, yet much more than that, for it is evident that the services contracted for and rendered by the plaintiff were more than that of a mere witness, and more than that which could have been coerced from him by a subpoena.

Every lawyer of experience in the practice knows that there are many things necessary to be done in the proper and effectual preparation and trial of causes, which involve the incurring of expense, besides the mere compensation of attorneys and statutory witness fees. These things are as necessary in securing the proper protection of the public rights in criminal prosecutions as well as when private rights only are in litigation. If the expenditure of county funds were limited in aiding prosecutions under the criminal laws only to the payment of attorneys and statutory witness fees, many of the most important cases could not be prosecuted to the courts in such manner as effectually to protect the rights of the public.

Fruits, Candies, Etc., Exposed for Sale May Be Required To Be Protected from Flies and Dust

(Ex parte Bacigalupo (Minn.), 132 N. W. R. 303)

The Supreme Court of Minnesota holds that an ordinance which reads: "All berries, cherries, dates and figs exposed for sale in any store, shop or building shall be protected from flies, and all fruits, berries and candies exposed for sale outside of the building, or in any wagon or cart, shall be protected from both flies and dust"—is not an unnecessary interference with private rights, and is not an unreasonable requirement, or impossible of performance, and is not in restraint of trade, or contrary to the provisions of either the state or federal constitution.

The court says that if the legislative authorities have the power to regulate the sale of cottolene, baking powder, farm and dairy products, to control butchers, the business of pharmacy, to enforce vaccination of school children, to regulate the smoke nuisance, and compel street car companies to sprinkle their tracks for the protection of the public health, then no question should arise as to the legislative power to protect fruits and candies from being exposed where they will accumulate the germ-laden dust of the streets or permit contact with flies.

The fact that the enforcement of the ordinance may require some radical change in the method of conducting a business does not necessarily furnish a defense to its enforcement. A privilege long countenanced does not always amount to a personal right. It is a very convenient and perhaps effective method of advertising fruit to display it in front of a store or on the street, in the view of the passer-by; but if, by its accumulation of dirt and germs, the health of the consumer is menaced, then certainly the police power may be invoked to take reasonable steps to abate this source of breeding disease, and, if necessary, may entirely deprive the vendor of fruit of the privilege of exposing it in the open air. The ordinance is a movement in the right direction. It speaks for health and cleanliness, and every right-thinking person ought to be in sympathy with a movement of this kind.

Properly construed, the ordinance is not designed to be burdensome, and it ought to be possible to provide some method of adequate protection without depriving exhibitors of the right to display their goods in the open. It may not be possible to protect fruit completely from dust, unless it is isolated in such a manner as to keep out the air; and, of course, that would result in the deterioration of the fruit, if kept confined too long. A fair meaning of the provisions of the ordinance is that fruit kept on exhibition on the outside of a building shall be no more exposed to dust than when it is kept on the inside of a building. The ordinance contemplates that every reasonable precaution should be taken to protect fruit from dust and flies when exposed in the open, and at the same time not result in its deterioration for lack of air. If experiment determines that this result is not possible without shortening the time to which fruit shall be confined, then such inconvenience as may result from it must be assumed by the fruit vendor.

The ordinance under consideration was bitterly criticized because its provisions included all fruits, such as oranges and bananas, which it was claimed required no protection. While, no doubt, a distinction may be drawn between such fruits and others, such as berries, it is not for the courts to say that even oranges and bananas should not be protected against the accumulation of dust and the approach of flies. Surely even those fruits are much more wholesome and less dangerous in scattering germs when kept free from flies and dust.

Something may be said in opposition to the enforcement of such restrictions in the case of wholesale or commission houses, where boxes are opened and exposed for the temporary purpose of displaying the contents to prospective purchasers. But here again the court cannot interfere and declare the ordinance void, for uncertainty, or as an infringement on the personal rights of such merchants, merely because it will create an inconvenience in their method of conducting business. If experience shows or develops the fact that the enforcement of the ordinance seriously interferes with the conduct of the business of those merchants, redress must be sought with the legislative power, and not with the courts.

The court's conclusion is that the ordinance is not unreasonable, is not impossible of performance, and is not in restraint of trade, or in conflict with any provision of the state or federal constitution.

Privileged Communications with Reference to "Same Subject"

(Struble vs. Village of De Witt (Neb.), 132 N. W. R. 124)

The Supreme Court of Nebraska holds that when part of a confidential communication between physician and patient is put in evidence by one party, the other party may give the whole communication "on the same subject," under the provisions of the code of that state. But the trial court must determine whether the evidence offered is on the same subject, and its ruling will not be regarded as erroneous unless there is a clear abuse of discretion. For example, in this case, where the plaintiff claimed that a fall on a defective sidewalk caused a subsequent miscarriage, her attending physician, as a witness for the defendant, was asked whether, at any one of his visits after her injury, he had any conversation, or anything was said, as to any previous miscarriages. This question was objected to on the ground that it related to a privileged communication, while the defendant contended that it was not a privileged communication because the plaintiff had herself testified to conversations with the physician in regard to her injury, and the condition that resulted therefrom, and as to his treatment and directions. The trial court took the view, however, that the matter inquired into by the question was not the "same subject" of conversation testified to by the plaintiff, and that it was not necessary to explain that conversation. The Supreme Court does not think that this was such an abuse of discretion as to require a reversal of a judgment rendered in favor of the plaintiff, as considerable latitude must be allowed a trial court in such matters.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

January, LXV, No. 469, pp. 1-196

1 Some Factors in Operative Technic and Management Which Make for Success or Failure. W. B. Chase, Brooklyn.
2 History of Iodin Methods of Skin Sterilization. J. E. Cannaday, Charleston, W. Va.
3 *Significance of Delayed Operation in Treatment of Ectopic Gestation. E. Marvel, Atlantic City, N. J.
4 *Treatment of Ectopic Pregnancy. C. A. Stillwagen, Pittsburgh.
5 *Lithopedion. W. S. Bainbridge, New York.
6 *Teaching Obstetrics. H. Schwarz, St. Louis.
7 *Aseptic or Antiseptic Hands in Obstetric Practice? Which and Why? D. H. Stewart, New York.
8 Relation of Gastrocolic Displacements to Certain Intrapelvic Conditions in Women. C. A. L. Reed, Cincinnati.
9 An Obstetric Accident. H. S. Lott, Winston, N. C.
10 Etiologic Factors in Exceptional Children and Their Prevention. M. Neustaedter, New York.
11 Backward Child vs. Feeble-Minded Child. M. P. E. Groszmann, Plainfield, N. J.
12 Progressive Methods of Dealing with Juvenile Delinquency. N. B. Neelen, Milwaukee, Wis.
13 Syphilis as Factor in Abnormal Development of Children. E. W. Dittrich, New York.
14 Condition of Nose, Throat and Ear as Factor in Exceptional Development. O. Glogau, New York.
15 Clinical Studies of Exceptional Children. E. B. McCready, Pittsburgh.
16 Speech Defects in Children. J. M. Fletcher, Worcester, Mass.
17 Value of Physical Activities in Treatment of Atypical Boys. G. Meylan, New York.

3. **Delayed Operation in Ectopic Gestation.**—It is Marvel's conviction that delayed operation imposes unjustifiable penalties on the patient. The significance of delayed operation is exhibited in greater loss of blood, possible loss of life occasioned by hemorrhage, increased shock depression, recurrent hemorrhage producing worse condition than first, operation fraught with greater difficulties, more extensive pathology, increased discomforts measured by time and intensity, crippled organs with deficient functions and protracted invalidism.

4. **Treatment of Ectopic Pregnancy.**—One of the patients whose case is cited by Stillwagen sought relief from excessive vomiting of pregnancy. Examination revealed pregnancy of about four months' duration. To the right of the pregnant uterus a mass was distinctly palpable. By vaginal examination could be felt what seemed to be the bones of a fetal head. The history was elicited that six years ago her menses had ceased, her abdomen enlarged and that she experienced all the subjective symptoms of pregnancy. After six months, however, the menstrual function was reestablished and all other symptoms gradually disappeared. With this history and the physical examination a diagnosis was made of lithopedion complicating pregnancy. At operation the mass was found to be encapsulated and was almost entirely covered by right broad ligament. There were a few intestinal and omental adhesions. Removal was easily accomplished. The fetus corresponded in size to a five or six months' pregnancy. The abdomen was closed without drainage. Convalescence normal. Vomiting ceased promptly. The remaining months of her pregnancy were uneventful and she is at present passing through a normal puerperium.

5. **Lithopedion.**—In Bainbridge's case the lithopedion had been carried for at least fourteen years. The woman had not missed a menstrual period from the time of its establishment after the birth of the last child, twenty-four years before, so that the lithopedion had presumably been carried for that length of time. There was apparently no connection between the lithopedion and a miscarriage which took place before the last pregnancy. It would seem, therefore, that the lithopedion was the result of a superfetation at the time of the last pregnancy. A small scar, found in the left tube just where the head lay, led to the conclusion that perhaps a tubal pregnancy occurred simultaneously with the uterine pregnancy, that this tube ruptured at an early stage and that extratubal development continued up to about seven months, calcification of the extratubal fetus taking place after that time, the intrauterine fetus going on to full term in a normal manner.

6. **Teaching Obstetrics.**—For the successful teaching of obstetrics, Schwarz says four things are absolutely necessary, namely, qualified teachers, well prepared students, reasonable place and space in the curriculum and the necessary equipment. The minimum obstetrical equipment which, he says, ought to be required of every medical school is as follows: A. Control of sufficient obstetrical material to make it possible for every member of the senior class to receive a reasonable training in the examination of pregnant women. To be present and to assist at the delivery of at least five women and personally to deliver under an instructor not less than two cases, so that for a senior class of fifty the school should furnish a minimum of 100 confinements a year. B. Equipment for a thorough manikin course. C. A small but well selected collection of specimens, pelves and teaching apparatus. D. A clinical laboratory. E. A small working library consisting of a few text-books and laboratory guides.

7. **Aseptic or Antiseptic Hands in Obstetric Practice.**—Briefly, Stewart's paper contends that the vagina is a sterile canal and to reach it we pass through a contaminated ring, the vulva. To do this by introducing an aseptic finger means contamination of both finger and canal. To introduce an antiseptic finger means the contamination of neither. Therefore the antiseptic finger or hand is the best for obstetric purposes.

Lancet Clinic, Cincinnati

December 30, CVI, No. 27, pp. 671-696

18 Mucous Glands of Bile Ducts and Gall-Bladder. B. Holmes, Chicago.
19 Hemorrhage in Typhoid. W. F. Boggess, Louisville, Ky.
20 Ancient Physicians and House Doctors. T. C. Minor, Cincinnati.

January 6, CVII, No. 1, pp. 1-26

21 The Social Evil. G. F. Lydston, Chicago.
22 *Operative Treatment of Gonorrheal Epididymitis; Sixty-Three Cases. F. R. Hagner and H. G. Fuller, Washington, D. C.

22. Abstracted in THE JOURNAL, Nov. 4, 1911, p. 1557.

Archives of Ophthalmology, New York

January, XLI, No. 1, pp. 1-96

23 Advantages of Preliminary Capsulotomy Especially in Immature Cataracts. H. E. Smith, Norwich, N. Y.
24 *Noguchi's Cutaneous Luetin Reaction and Its Application in Ophthalmology. M. Cohen, New York.
25 Detailed Report on 358 Cataract Extractions Performed at Jullundur, Punjab, India, in October, 1909, at Col. Henry Smith's Clinic; with Complete Statistical Tables. D. T. Vail, Cincinnati.
26 Mixed Tumor of Lachrymal Gland. G. H. Knapp, Cincinnati.
27 Individual Differences of Normal Ciliary Body. C. Hess, Würzburg.

24. **Noguchi's Cutaneous Luetin Reaction.**—In forty-six out of sixty cases, or 76.66 per cent. tested by Cohen, the cutaneous reaction corresponded either with clinical evidence and Wassermann together or with one of them separately; and in fourteen out of sixty cases, or 23.5 per cent. the cutaneous test did not correspond with clinical evidence and Wassermann together. He concluded, therefore, that the luetin test, which is performed by injecting intradermatically a sterile emulsion containing killed *Spirochaeta pallida* obtained from pure culture, will probably prove to be a valuable aid in the diagnosis of syphilis. Thus far the test has been absolutely harmless in 170 cases which were inoculated during the past five months. There having been no reactions in 94 per cent. of cases considered nonsyphilitic and only mild and atypical reactions in the remaining 6 per cent., the test appears to be of considerable negative value. In the present experimental stage of the study of the luetin test, a positive reaction is strong presumptive evidence of the existence of syphilis. The luetin test was positive in ten cases regarded clinically as syphilitic in which, presumably because of previous antisyphilitic treatment, the Wassermann was negative.

New York Medical Journal

January 6, XCV, No. 1, pp. 1-52

28 Vertigo from Standpoint of General Practitioner and Otologist. E. B. Dench, New York.
29 Hygienic and Economic Features of East River Homes Foundation. H. L. Shively, New York.
30 Primary Degeneration of Pyramidal Tract. A. Gordon, Philadelphia.
31 Relative Merits of Spa Treatment of Heart Troubles at Bad-Nauheim and in America. L. F. Bishop, New York.
32 Treatment of Stomach Diseases at Carlsbad and Wiesbaden. H. G. Watson, New York.
33 *Saratoga Springs, History; Origin; Chemical Constituents; General Therapeutic Action. D. C. Moriarta, Saratoga Springs, N. Y.
34 *Saratoga Springs; Specific Clinical Indications. G. F. Comstock, Saratoga Springs, N. Y.

35 Hypertrichosis; Its Treatment With Roentgen-Ray. S. Stern, New York.
36 *Comparative Study of Wassermann and Weil Cobra Venom Reactions for Syphilis. H. J. Schwartz, New York.

January 13, XCV, No. 2, pp. 53-104

37 *Effect of Tuberculin Treatment on Leukocytic Picture. M. Solis-Cohen and A. Strickler, Philadelphia.
38 Evolution of Operating Table; Additional Data. W. S. Bainbridge, New York.
39 Case of Thoracic Tumor and Aneurysm of Descending Thoracic Aorta, Treated With Salvarsan. G. R. Satterlee, New York.
40 *New Muscle Resection Operation for Squint. R. G. Reese, New York.
41 Urasol (Acetylmethylendisalicylic acid) in Rheumatism. L. Ott, Philadelphia.
42 Combination of Autopsy Tray and Warming Stage to Facilitate Bleeding of Rabbits from Postauricular Vein. G. A. Rueck, New York.
43 Present Status of Gonococcus Infection. R. M. Rawls, New York.
44 Ocular Manifestations Associated with Some Forms of Chronic Cyanosis. T. R. Holloway, Philadelphia.
45 Periamygdalar Suppuration. N. Settel, New York.
46 Deep Penetration of Thigh by Crochet Needle. F. Griffith, New York.

33. **Saratoga Springs.**—The origin of the springs at Saratoga has been discussed at various times by learned chemists and geologists, often with totally diverse theories. To Moriarta's mind, the important feature in the discussion is the origin of the carbonic acid gas. There is free carbonic acid gas in the Saratoga water and Moriarta says it is rational to conclude that water first charged with this gas flows over or through the earth or rocks having carbonates of the alkaline earths exposed; and that they are thus converted into bicarbonates and dissolved and taken up because of the excess of gas in the water. A wonderful feature of these waters is that the chemicals should occur so uniformly. The character of the water is probably determined by the particular chemicals existing in the channels of earth through which, or over which this carbonated water finds its way.

The trouble with the mineral springs at Saratoga began some fifteen years ago, when commercial industries began collecting the gas from the spring waters, condensing it, and shipping it for the market. To meet the demands for the gas, deeper pumping was resorted to, and as the demand continued to increase, larger plants were built and more powerful pumps were installed. Finally, deep water gang pumps were set up, pumping in all 1,000 gallons a minute, continuously night and day, the gas collected, the water wasted. The water wasted at these gas plants has been repeatedly analyzed, and the chemicals have been found to exist always in the same relative proportion, though not the same in quantity as in the original analysis; the few grains' difference a gallon in the total salts is due, in Moriarta's opinion, to the lesser quantity of gas in the water when obtained hundreds of feet below the surface of the earth. Naturally, water 500 feet below the earth's surface would not contain the same amount of gas in solution as if the water were flowing at the surface. The legislature has now prohibited the pumping of water from these wells to secure the gas. Recent analyses of the spring waters show that they have the same qualities as formerly. With the genuineness of the mineral waters certified to by the state, Moriarta says there can be no further question concerning their therapeutic value, and now that this basic essential is settled, Saratoga Springs compares favorably with any of the European spas.

The bathing in mineral waters at Saratoga is quite as effective therapeutically as at any foreign spa, judging from the chemicals and gas shown by the analysis of the waters. Nevertheless, it has never taken on the popular or social side at Saratoga, as abroad, because the mineral water bathing facilities are limited and lack the elegance and luxury of appointment of the foreign pavilions. Moriarta suggests that physicians sending patients to Saratoga for their health should emphasize to such patients the necessity of following a regulated regime, for there has been in his patients an almost universal tendency toward excesses in drinking the mineral waters and alcoholic beverages, as well as toward overindulgence in rich and highly seasoned foods.

34. **Saratoga Springs: Specific Clinical Indications.**—Comstock says that the Saratoga mineral springs are divided for therapeutic purposes into the alkaline saline group. They vary in strength and some of them contain sufficient iron to be of value medicinally. There are also sulphur springs. To obtain the best results in using waters it is obvious that no hard and fast rules can be laid down, but it is essential that they should be drunk at the spring itself to get them at the temperature at which the waters leave the earth, and in their freshest state when they are not only more efficacious but more palatable.

A proper discrimination must be made in prescribing the waters, for like any drug they may produce harm as well as good, and it is only in those cases to which an individual water is adapted and properly taken, that we can expect to see the wished-for result. Indiscriminate drinking, especially indiscriminate mixing, has done much harm in causing severe headache, loss of appetite, intestinal irritation with diarrhea, and a feeling of general malaise. Comstock cites instances to illustrate what the water can do for certain patients.

36. **Cobra Venom Reactions.**—A study of Schwartz' tables reveals that the Wassermann reaction is much the more sensitive in the early untreated stages of syphilis. In the primary stage the Wassermann test gives a positive reaction in 73.9 per cent. of the cases, the Weil only 54.3; in the early active cases, with little or no treatment, the Wassermann test is positive in 96.8 per cent., the Weil in 67.1; in the early latent cases, with little treatment, the Wassermann test is positive in 90 per cent., the Weil in 75 per cent.

In the later untreated stages of the disease the opposite condition obtains, namely, the Weil test is more sensitive than the Wassermann. In the late active cases, with little or no treatment, the Wassermann test is positive in 77.5 per cent., the Weil in 81.6; in the latent untreated cases the Wassermann test is positive in 34.7 per cent., the Weil in 76.3. In the treated cases the Weil reaction is much the more sensitive throughout. In other words, the Weil reaction persists much longer after mercurialization and therefore offers a further diagnostic and therapeutic test. Schwartz has compared the two reactions in very few cases of syphilis treated with salvarsan but so far the results obtained have been the same as those obtained in cases treated with mercury. The Weil reaction seems to be specific for syphilis, with the sole exception of carcinoma. The Wassermann and Weil reactions do not run parallel, but are complementary to each other—one proving sensitive under conditions where the other fails. Schwartz, therefore, considers that the application of the two tests, both in the diagnosis and therapeusis of syphilis, is highly important.

37. **Tuberculin Treatment.**—Continuing their studies of the leukocyte picture in tuberculosis, the authors now report on the effect of the tuberculin treatment on the leukocytes as noted by them in six cases of pulmonary tuberculosis. They believe that it is possible that the effect on the blood-picture will show what cases are suitable for tuberculin treatment and whether the dose employed is correct, insufficient or excessive. The age of the patient, the stage of the disease and the amount of lung involvement may be factors in the effectiveness of tuberculin therapy and in the changes in the proportions of the leukocytes that result from it. In all their cases there was an increase in the proportion of multinuclear cells with one and two nuclei during tuberculin treatment; in two cases, however, being preceded by a fall. In four of the six cases the lymphocytes were increased during tuberculin treatment, a slight intermediate fall, however, occurring in one after three months on the same dosage. Tuberculin given by the mouth in very small doses, very gradually increased, apparently produces an alteration in the proportions of the different forms of leukocytes.

40. **Muscle Resection Operation for Squint.**—The essential features of Reese's operation are as follows: 1. The line of incision is 6 millimetres from the circumcorneal vascular zone, thereby avoiding any marked reaction. 2. The free dissection of the muscle from all tissues of the globe makes the operation a myectomy. 3. The sutures are put in the scleral stump, avoiding traumatism by not sewing the sclera proper. 4. The manner of placing the middle suture precludes the possibility of its pulling out. 5. The "bridle" seen in advancements is avoided; motility is not limited and a better cosmetic effect

is given. 6. The muscle is sutured to its original insertion and not to the corneal margin. The same result is eventually obtained in advancements, as the belly of the muscle becomes attached to the original insertion. 7. The motility is increased in every case. 8. The manner of placing the forceps insures the holding of all the fibers and the groove on its blade indicates the middle of the muscle.

St. Louis Medical Review

December, V, No. 12, pp. 353-384

47 Man as Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
48 Hypodermatic Hydrotherapy; Report of Cases. L. Weiss, Newark, N. J.
49 Appendicular Implications. J. J. Link, St. Louis.
50 Nausea of Astigmatism. A. S. Core, Chicago.
51 Bright's Disease. W. Blair, Glenafork, Ky.
52 Observations on Inguinal Hernia. L. Sexton, New Orleans.
53 Clinical Pathology of Idiopathic Erysipelas and Treatment. J. D. Bloom, New Orleans.

American Journal of Diseases of Children, Chicago

January 3, No. 1, pp. 1-68

54 *Studies on Infant Nutrition. A. M. Courtney, New York.
55 Calcium Metabolism in Infantile Tetany; Report of Case. H. Schwarz and M. H. Bass, New York.
56 Report of Brain Cases. W. J. Butler, Chicago.
57 *Splenomegaly (Gaucher). M. S. Reuben, New York.
58 *Treatment of Pertussis with Vaccine. E. E. Graham, Philadelphia.
59 Resuscitation of Asphyxiated Infants by Insufflation Method of Meltzer and Auer. E. Plauchu, Lyons, France.

54. **Infant Nutrition.**—Careful analyses and experiments have led Courtney to the conclusion that the "hard" or "casein" curds represent remnants of food, principally of protein nature, that have escaped being digested. The exact mechanism of their formation as yet cannot be ascertained and they should be regarded as a peculiarity appearing in course of imperfect conditions of digestion. The curds are not pathognomonic of any definite pathologic condition. The loss of food occasioned by their formation and the impairment of the general nutrition resulting from it is insignificant. In attempting to correct the state of digestion one should be guided by the general rules of infant feeding, paying only secondary attention to the appearance or disappearance of curds from the stools.

57. **Splenomegaly.**—Reuben reports the history of a family, four members of which suffer from a type of splenic enlargement usually designated as that of Gaucher. Father and mother are both living and well; there is no tuberculosis in the family; nor could any luetic history be obtained. The mother has given birth to four children, and has had no miscarriages or stillbirths. Anna, the oldest child, is 11 years old. Lilly died in 1909 at the age of 8; Freda is 9 years old, and Max, the youngest, is 4 years old. Wassermann reaction of mother negative.

58. **Treatment of Pertussis.**—Of the twenty-four cases reported by Graham, which were treated with a specific lymph vaccine, seven were apparently not benefited by the treatment, the disease evidently pursuing its usual course in about 29 per cent. Seventeen patients, or about 71 per cent., were apparently benefited by the treatment. Graham believes the dose could, and should, be increased beyond 40 million, especially for severe cases; 60, 80 or 100 million will probably be a more efficient dose. The result obtained in these twenty-four cases warrants, in his opinion, a more extensive trial of the vaccine. The vaccine was prepared by growing the Bordet-Gengou bacillus.

Journal-Lancet, Minneapolis

January 1, XXXII, No. 1, pp. 1-28

60 Smallpox and Chickenpox. H. W. Hill, Minneapolis.
61 Removal of Lens in its Capsule in Cataract Cases. H. A. Beaudoux, St. Paul.
62 Angiomata of Antrum of Highmore. E. F. Reamer, Mitchell, S. D.
63 Cervical Rib. M. S. Henderson, Rochester, Minn.
64 Rolling Down of Retracted Tendons Following Accidental Division. A. C. Strachauer, Minneapolis.

Journal of Medical Research, Boston

December, XX, No. 2, pp. 263-508

65 Pure Cultures of Amebæ Parasitica in Mammals. A. W. Williams, New York.
66 *Identity in Dog and Man of Sequence of Changes Produced by Functional Activity in Purkinje Cell of Cerebellum. D. H. Dolley, Chapel Hill, N. C.
67 *Relative Importance of Bovine and Human Types of Tubercle Bacilli in Different Forms of Human Tuberculosis. W. H. Park and C. Krumwiede, New York
68 *Reaction Curve in Glycerin Broth as Aid in Differentiating Bovine from Human Type of Tubercle Bacillus. M. Grund, New York.
69 *Fatty Compounds as Factor in Etiology of Appendicitis. B. V. Anthony, Cincinnati.
70 Regeneration of Renal Epithelium in Intact Cat Kidney. W. deB. MacNider, Chapel Hill, N. C.
71 *Calcification and Ossification. H. Gideon Wells, H. F. Holmes and G. R. Henry, Chicago.
72 Case of Cerebellar Abscess with Isolation of Micrococcus Cereus Albus. H. T. Karsner, Philadelphia.
73 Absorption of Albumin Without Digestion. E. V. N. Van Alstyne and P. A. Grant, New York.

66. **Purkinje Cell of Cerebellum.**—Dolley agrees with Marinesco that the chromatic substance is the immediate source of energy, in his term, a kinetoplasm. But the chromatic substance is not merely an independent cytoplasmic derivative, however highly it be esteemed as a "superior" protoplasm. The elaboration and discharge of chromatin and its transmutation into the energy of work represent in themselves the integral activities of the nerve cell. To this end the whole cell integrates; this is its single response to any stimulus. Anatomically, specialization would seem to be a more elaborate and delicate mechanism to accomplish the same thing more rapidly and more efficiently. The liberation of the energy from this source manifests itself, whether directly or through a more indirect influence, as the work of the cell, its functional expression. Certainly, the discharge of chromatin is the basis of function and in its successive stages the index of functional capacity.

67. **Bovine and Human Types of Tubercle Bacilli.**—The results of the examination of various cases showed conclusively that infection with bovine tubercle bacilli in New York City and its vicinity is essentially a disease of children and a serious menace to life in infants. Because of this, the authors decided to examine additional material, especially from fatal cases of tuberculosis in children. These additional cases have given results closely approximating those already published and, therefore, serve to verify the reliability of these figures. They conclude that bovine tuberculosis is practically a negligible factor in adults. It very rarely causes pulmonary tuberculosis or phthisis, which causes the vast majority of deaths from tuberculosis in man and is the type of disease responsible for the spread of the virus from man to man. In children, however, the bovine type of tubercle bacillus causes a marked percentage of the cases of cervical adenitis leading to operation, temporary disablement, discomfort and disfigurement. It causes a large percentage of the rarer types of alimentary tuberculosis requiring operative interference or causing the death of the child directly or as a contributing cause in other diseases. In young children it becomes a menace to life and causes from 6.33 to 10 per cent. of the total fatalities from this disease.

68. **Reaction Curve in Glycerin Broth.**—Broadly speaking, Grund says, the reaction curve in glycerin broth divides tubercle bacilli into two types. The bacilli which possess a low degree of virulence for rabbits and the power to grow well on glycerin media in the early generations, produce one type of reaction curve, while those which are virulent for rabbits and which, in the early generations grow slowly and with difficulty on glycerin media, form the other type of curve in glycerin broth. There is no constant relation between irregularities of culture and virulence on the one hand and irregularity of the glycerin reaction curve on the other. Some viruses which culturally and in virulence showed nothing unusual have given very atypical curves, while perfectly normal reaction curves were produced by viruses which from cultural and virulence tests could not be called quite typical. The glycerin reaction curve is undoubtedly a valuable corroborative evidence of a division of tubercle bacilli into two types. Its value is lessened, however, by the number of irregular and atypical reactions encountered, while as a practical aid in determining the type of an individual virus, it is also much handicapped by the length of time required.

69. **Fatty Compounds in Appendicitis.**—Anthony agrees with Owen T. Williams that one of the factors in the cause of appendicitis may be the laying down of soaps and other insoluble fatty compounds in the mucous membrane and submucosa of the appendix. As judged by the staining reactions of Scharlach R., nile blue sulfate, silver nitrate and osmic acid

applied to a set of forty-eight appendices by Anthony, fatty acids and calcium soaps predominate in the acute and chronic forms of appendicitis, while only neutral fats and slight amounts of fatty acids occur in the controls. In this series the presence of calcium soaps and fatty acids seems to increase with the age of the patient, especially between twenty-five and fifty years.

71. **Calcification and Ossification.**—The authors conclude that the calcification of renal epithelium and tube casts which is experimentally produced by temporary anemia and by certain poisons, is probably analogous to calcification of tissues with lime salts direct from the blood. These epithelium and tube-cast deposits contain no demonstrable carbonate and seem to contain calcium only as phosphate. When the necrosis and calcification involve the interstitial tissues, carbonate can be demonstrated; here the calcium probably comes from the blood rather than from the urine. Permanent ligation of the ureter alone leads to slight deposition of calcium. Ligation of the ureter usually decreases the amount of calcification which is produced by temporary anemia or poisoning, but whether by decreasing urinary secretion or by circulatory disturbances, is not determined. Demonstrable deposition of calcium may be present as early as thirty-six hours after a temporary anemia of one hour. Permanent ligation of the renal artery causes extensive calcification of the kidney within a few days; ligation for seven weeks led to a deposition of .162 gram CaO in a kidney, so that about 25 per cent. of the dry weight of the kidney was calcium phosphate. Thrombus formation with marked calcification of the thrombus can take place in six days.

Journal of South Carolina Medical Association, Charleston

December, VII, No. 12, pp. 431-462

74 Eight Cases of Pulmonary Tuberculosis Treated by Injecting Nitrogen Into Pleural Cavity. M. E. Lapham, Highlands, N. C.
75 Old Tuberculin as Factor in Diagnosis of Obscure Eye Troubles. C. Torrence, Union, Tenn.
76 Woman Physician. S. Brunson, Elloree, S. C.

Journal of Arkansas Medical Society, Little Rock

December, VIII, No. 7, pp. 179-216

77 Etiology and Pathology of Appendicitis. J. P. Runyan, Little Rock.
78 Symptomatology and Diagnosis of Appendicitis. W. V. Laws, Hot Springs.
79 Medical and Surgical Treatment of Appendicitis. O. Gray, Little Rock.
80 Headaches of Ocular and Nasal Origin. J. G. Watkins, Little Rock.

Buffalo Medical Journal

December, LXVII, No. 5, pp. 243-304

81 One Hundred Radical Mastoidectomies. G. F. Cott, Buffalo.
82 Statistic Studies of Cures of Inebriety. T. D. Crothers, Hartford, Conn.
83 Vicious Union of Shaft of Femur. E. L. Bebee, Buffalo.
84 Treatment of Chronic Gonorrhea. C. W. Bethune, Buffalo.

January, LXVII, No. 6, pp. 305-364

85 Cancer of Gastro-Intestinal Tract. W. J. Mayo, Rochester, Minn.
86 *Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in Residual Paralysis or Anterior Poliomyelitis. R. Bartow and W. W. Plummer, Buffalo.
87 Silver Iodid in Urethritis and Cystitis. J. A. Gardner, Buffalo.

86. **Silk Ligaments.**—The material employed by Bartow and Plummer for the artificial ligament used in this connection was the parafined silk tendon, prepared in the manner suggested by Lange for tendon elongation. Number 20 Corticelli twisted silk was the size used for both knee and ankle in the earlier operations. Its tensile strength, after operation, was roughly estimated to be sufficient to sustain a direct strain of 125 pounds. For the fixation of the feet in very young children we have recently used No. 14 size with satisfactory effect and greater ease of introduction. In those cases also a very strong Kelly's trachelorrhapy needle has been used to introduce the silk, in place of the hand drill, greatly simplifying this detail in the technic. The authors are very enthusiastic over the results they have obtained in their cases. They believe that this procedure has a place of value among the numerous methods in use for the fixation of paralytic joints. It does not, like arthrodesis, involve mutilation of the joint, and does not, like the latter, cause ankylosis. It appears practicable also to employ it in complete paralysis of the leg and foot groups in children of ages unsuitable for arthrodesis. As it produces only limitation of movement, the possibility of regeneration occurring in some of the impaired muscle groups would not be interfered with as in a joint which had been completely ankylosed. There is little to apprehend from the introduction into large joints of an aseptic foreign substance like the silk ligament. While this procedure would occasionally be available in place of tendon transposition and tendon elongation, it appears probable that it may, to a large extent, become a substitute for arthrodesis. In the milder forms of paralytic deformity of the feet, it suffices for holding them in good functionating positions, without transposition of intact muscles, during a period when regeneration may be expected to occur. Its simplicity as compared with the problems of tendon transposition and tendon elongation, is one of the advantages which would often recommend it for preference. It also offers an opportunity to repeat the operation in the same joint, if necessary, without detriment to the improvement which may have followed an earlier attempt to limit its movement. If, on the other hand, it were evident that this procedure restrained the joint detrimentally in its movements, or the recovery of function or development, it would be easy to remove the restraint exercised by the silk ligament by dividing it anywhere in its continuity, or even withdrawing it altogether. No tendency has thus far been shown for the silk ligaments to cut their way out of the joint, or cause sloughing of the tissues in contact with them. They become looser, however, with time and the use of the limb. As they cannot stretch, the chief source of looseness is probably from absorption of the bone in which they are buried at points where tension is greatest.

Delaware State Medical Journal, Wilmington

December, III, No. 1, pp. 1-26

88 Alcohol and Public Health. G. F. Jones, Georgetown, Del.

Medical Fortnightly, St. Joseph, Mo.

December 25, XXXX, No. 12, pp. 519-546

89 Abdominal Drainage. C. H. Blickenderfer, Shawnee, Okla.
90 Medical Education. R. O. Braswell, Fort Worth, Tex.
91 Conjunctival Flap. R. H. T. Mann, Texarkana, Ark.-Tex.

Journal of Abnormal Psychology, Boston

December, VI, No. 5, pp. 329-400

92 Nature of Sleep. I. H. Coriat, Boston.
93 Contrary Suggestion. R. Macdougall, New York.

Bulletin of Johns Hopkins Hospital, Baltimore

January, XXIII, No. 251, pp. 1-32

94 *Ophthalmo Reaction in Typhoid. C. R. Austrian, Baltimore.
95 Strauss Test for Hepatic Insufficiency. J. W. Churchman, Baltimore.
96 *Observations on Sepsis and Antisepsis in Medicine. W. S. Thayer, Baltimore.
97 Sewerage System of City of Baltimore. C. W. Hendrick, Baltimore.

94. **Ophthalmo-Reaction in Typhoid.**—In seventy-five cases of typhoid studied by Austrian the ophthalmo-test was positive in seventy-one and negative in four. Of the nineteen cases examined during the first week of the disease, all but one reacted positively and in that case repeated blood-cultures and agglutination reactions were negative. Of the twenty-five patients tested during the second week of the disease, every one gave a positive reaction. One of these cases showed a negative reaction on the eighth day and a positive reaction on the twelfth day. Of the fifteen cases in the third week of the disease two failed to give the typical response. One of these cases had a negative blood-culture and Widal reactions; the other had a positive Widal reaction on the same day that the eye test was tried. Seven patients were examined during the fourth week of the disease and all reacted positively; and of the four patients in the fifth week all developed the typical response except one and that one had completely recovered. Two patients in the sixth week and one in the eighth week showed positive reactions. The earliest appearance of the reaction was on the third day of the disease, the latest on the fifty-seventh day. Of fifteen patients, convalescent and afebrile, only three still gave the specific response. In four patients with a relapse the reaction was positive early in the stage of reinfection. Inflammation of the conjunctiva was noted as early as one hour after the application of the antigen, the average interval before it developed

being two and a half hours. The maximum changes were usually apparent by the sixth hour, occasionally as early as the second hour, and in one case they were delayed until the sixteenth hour. The average duration of the palpebral injection was forty hours, the extremes being twenty-five and 240 hours. The intensity of the reaction showed no constant variation with the severity of the infection or with the stage of the disease, except that it was more constantly present and more marked in the febrile, greatly intoxicated patients. Especially worthy of note was the absence of symptoms, even when the inflammatory response was very intense; and the tendency of the most marked response to be localized in the palpebral conjunctiva of the lower lid and in the caruncle. The results of the ophthalmo-reaction and of the blood-cultures showed a striking similarity. In many instances the former was reported positive before the *Bacillus typhosus* was identified in cultures and in a greater number of cases the appearance of a positive eye test antedated by many days a positive agglutination reaction. Further, in three cases clinically typhoid the eye test antedated by many days a positive agglutination reaction. Further, in three cases clinically typhoid the eye test was positive, whereas repeated blood-cultures and Widal reactions gave negative results. Widal reaction was positive as early as the ophthalmo-reaction in only 23 per cent. of the cases. A total of 190 persons, normal or ill with diseases other than typhoid, were examined for conjunctival sensitiveness to "typho-protein." Many (eighty-four) of them were febrile, and, in the case of several, a tentative diagnosis of typhoid was made at the time the test was given. In this latter group especially the value of the ophthalmo-reaction as a diagnostic aid was apparent. In the examination of fifty-six pathologic conditions in no instance was a reaction like that seen in typhoid noted. In two cases only did a reaction develop which was difficult to interpret. From both patients a history of previous infection with the *Bacillus typhosus* was elicited and in both the injection of the palpebral conjunctiva of the caruncle was only of moderate grade and subsided in less than eighteen hours. The striking dissimilarity between the conjunctival reaction following the instillation of the test solution into the conjunctival sac of persons having typhoid and of those ill with other diseases or normal, Austrian says, must be apparent, and speaks strongly for the specificity of the reaction. A solution of one-third to one-half of a milligram of "typho-protein" in a drop of water, when instilled into the conjunctival sac of the patient ill with typhoid causes a typical inflammatory reaction. The most constant results are obtained when the "protein" is derived from numerous different strains of the bacilli. The typical response shows definite characteristics: It is limited to or is maximal in the palpebral conjunctiva of the lower lid and of the caruncle. The advantages of the test are its simplicity, the fact that it can be applied and interpreted by the physician, the rapidity with which it becomes manifest and the absence of any discomfort to the patient.

96. Abstracted in THE JOURNAL, Oct. 28, 1911, p. 1485.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

December, XIV, No. 12, pp. 705-782

98 Fluorescence Excited Within Human Tissues as Method of Treatment. W. J. Morton, New York.
99 Panhysterocolpectomy for Hernia Vaginæ. A. E. Gallant, New York.
100 *Status of Midwifery in Pennsylvania and Midwives of Philadelphia. S. W. Newmayer, Philadelphia.
101 Common Gastric Diseases. J. O'Malley, Philadelphia.
102 *Hypoadrenia as Cause of Death in Infections, and Its Treatment. C. E. de M. Sajous, Philadelphia.

100. Abstracted in THE JOURNAL, Jan. 6, 1912, p. 60.

102. Abstracted in THE JOURNAL, June 3, 1911, p. 1678.

American Journal of Urology, New York

December, VII, No. 12, pp. 459-510

103 *Tubercular Epididymitis; Analysis of 153 Cases. J. D. Barney, Boston.
104 Preputial Redundancy; Operative Technic for Its Correction. W. W. Townsend, Rutland, Vt.
105 Suprapubic or Perineal Prostatectomy. A. C. Stokes, Omaha, Neb.

103. Appeared in *The Boston Med. and Surg. Journal*, Dec. 14, 1911.

Boston Medical and Surgical Journal

January 11, CLXVI, No. 2, pp. 35-74

106 *Operative Measures for Tubercular Knee Affections. H. W. Marshall, Boston.
107 Two Cases of Intracranial Cerebral Hemorrhage in New-Born Relieved by Operation. C. C. Simmons, Boston.
108 Infant Feeding Au Naturel. S. Delano, Boston.
109 *Case of Mild Anterior Poliomyelitis. W. N. Bullard, Boston.
110 Two Cases of Poliomyelitis Mistaken for Neuritis. T. A. Williams, Washington, D. C.

106. **Operative Measures for Tubercular Knee Affections.**—Well-developed, chronic, progressive cases of tuberculosis of the knees, Marshall says, can be treated most satisfactorily by excising such joints. The surgical skill needed in resections is simple enough to enable individuals with average experience and dexterity to perform them successfully from a surgical standpoint. Among eighteen patients whose histories are analyzed ten now have serviceable legs or stumps and lead active lives. Three died eleven months, two years, and six years and six months, respectively, after their operations. Two have so much pain in their legs at present that they are unable to work, and one works fairly regularly in spite of painful symptoms and partial non-union of the bones. One is incapacitated by tuberculosis of the spine, which developed after the knee became solidly united, and the remaining patient has nearly recovered and has departed for Italy, so that his condition is not accurately known. Among fifteen patients who are now alive, thirteen have solid union of femur and tibia and two have imperfect union after one year and eleven months, and three years and three months, respectively. Two of the fifteen have discharging sinuses after one year, and three years, respectively; and none have deformity from union in faulty position after operation. Seven of the ten patients with serviceable legs leading active lives were treated by resections, and among these seven resections, the average age was 32 years, and the average length of time since operation six years and nine months. The longest time since operation has occurred with a man 43 years old and has been twelve years and one month. The oldest individual with a successful resection is a woman of 44 years who was operated on four years and one month before the latest report was received.

Preliminary arthrotomies with excision of villi were performed in three of the eighteen cases. One of these refused further treatment and had his leg amputated at the thigh nine months later by his local surgeon and died six years and six months after the arthrotomy. The second had a resection in three months, and two years later he went to Italy. The third patient required two resections at intervals of one year and three months, and two years and three months, after the first arthrotomy. This latter patient is the only one in the series on whom two resections have been made. He now has fairly solid union after one year with the leg still held in a plaster cast and sinuses subsiding in their discharge of pus.

109. **Mild Anterior Poliomyelitis.**—There are several interesting points in Bullard's case. A child 8 years old had been thoroughly exposed to contagion from her brother, ill with anterior poliomyelitis. The patient developed an illness exactly one week later than her brother. Her illness, although the high temperature lasted but a short time, was a severe one, weakening the patient, who was a vigorous child, and at the time of the attack and for some time previously had been in perfect health, so that she was in bed fourteen days and was still weak at the end of three weeks. There was in this attack no important gastro-intestinal disturbance. The patient was for two days unwilling to eat and there was constipation. Once when pressed to eat she vomited, but this was evidently due to a temporary condition, and was a secondary symptom. The general hypersensitiveness of the nervous system was very marked. The absence of paralysis is a significant feature. The brother had a typical case of anterior poliomyelitis with paralysis at first of all the limbs; at the present time paralysis of the lower extremities remains.

American Medicine, Burlington, Vt.

December, VI, No. 12, pp. 621-694

111 Freud's "Apprehension Neurosis." S. A. Tannenbaum, New York.
112 Freud's Theory of Compulsion Neurosis. A. A. Brill, New York.

113 Freud's Theory of Dreams. H. W. Frink, New York.
114 Routine Practice of Psycho-Analysis and Its Related Subjects. B. Rosenbluth, New York.
115 Senile Rheumatism. I. L. Nascher, New York.

Ophthalmic Record, Chicago

December, XX, No. 12, pp. 711-766

116 Case of Hyaline Degeneration of Cornea. W. Reber, Philadelphia.
117 Modified Trephine for Fergus-Elliot Operation in Glaucoma. L. W. Fox, Philadelphia.
118 Copiopia Hysterica. W. E. Shahan, St. Louis.
119 So-Called Case of Idiopathic Neuroretinitis with Spontaneous Recovery. J. S. Wyler, Cincinnati.

Southern California Practitioner, Los Angeles

December, XXVI, No. 12, pp. 579-624

120 Inconclusiveness of Sputum Content in Cases of Pulmonary Tuberculosis. R. L. Cunningham, Los Angeles.
121 Diphtheria Bacillus in Regard to Its Relation to Public Health. A. H. Jones, Los Angeles.
122 Extrauterine Pregnancy. W. A. Holt, Globe, Ariz.
123 Studies of Malaria in Panama: Pernicious Malarial Fever. W. V. Brem, Los Angeles.

Interstate Medical Journal, St. Louis, Mo.

December, XVIII, No. 12, pp. 1161-1250

124 Acute Poliomyelitis; Diagnosis. D. Hecht, Chicago.
125 Treatment of Influenza. F. S. Mears, New York.
126 Contract Practice in Foreign Countries. W. B. Chamberlin, Cleveland.
127 Gumma of Sternum. L. Clendening and E. H. Skinner, Kansas City, Mo.
128 Tuberculin Reactions and Their Comparative Value as Diagnostic Aids. O. H. Benker, St. Louis.

Medical Record, New York

January 6, 81, No. 2148, pp. 1-50

129 Compensation by Displacement of Thoracic Viscera in Pulmonary Tuberculosis. C. L. Leonard, Philadelphia.
130 Myelocystocele. Spina Bifida Occulta. H. B. Sheffield, New York.
131 Acidosis Following Nephrectomy. J. B. Squier, New York.
132 Martinus Van Hillie and His Treatment of Gonorrhea and Syphilis in Seventeenth Century. J. B. Stein, New York.
133 Postoperative Treatment of General Suppurative Peritonitis. A. Judd, New York.
134 Practical Points in Diagnosis and Treatment of Diphtheria. A. Levinson, Chicago.
135 Retrobulbar Optic Neuritis. S. H. Brown, Philadelphia.

Journal of Maine Medical Association, Portland

January, II, No. 6, pp. 571-615

136 The Physician Himself as a Business Man. W. I. Blanchard, Phillips.
137 Dynamic Energy of Man. J. D. Ames, Norridgewock.
138 Nutrition and Metabolism. H. A. Milliken, Hallowell.

Bulletin of Manila Medical Society, P. I.

November, III, No. 11, pp. 182-195

139 Use of Salvarsan in Military Service. W. Shields, Manila.
140 Wassermann Reaction in Diagnosis and Treatment. C. H. Treuholtz, U. S. Army.

Military Surgeon, Washington, D. C.

December, XXIX, No. 6, pp. 697-727

141 Sanitation of Maneuver Camp at San Antonio, Tex. P. F. Straub, U. S. Army.
142 Problem of Rocky Mountain Spotted Fever. W. C. Rucker, U. S. P. H. and M.-H. S.
143 Medical Service of French Army in Campaign. P. Février.
144 A New Stretcher. W. A. May.
145 Venereal Prophylaxis. D. C. Howard, U. S. Army.
146 Operation for Inguinal and Femoral Hernias. Routte.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

December 30, No. 2661, pp. 1685-1720

1 *Varieties of Colitis and Their Diagnosis by Sigmoidoscopic Examination. P. L. Mummery.
2 *Vicious Circles Associated with Diseases of Skin. J. B. Hurry.
3 Epidemic Poliomyelitis Occurring at Stowmarket, Suffolk. S. Hillier.
4 *Epidemic Paralysis in Hampshire. G. F. England.
5 *Epidemic Anterior Poliomyelitis in South Derbyshire. J. H. Moir.
6 *Retention of Fetus in Abdominal Cavity for Forty Years. E. Weatherhead.

1. Varieties of Colitis.—Study of a large number of these cases, both by a routine sigmoidoscopic examination and during operations has led Mummery to the conclusion that chronic mucomembranous colitis is not, as usually described, a clinical entity, but is a collection of symptoms which, owing to want of better knowledge as to the pathology and physiology of the colon, have been placed together and labeled as a disease; whereas, in fact, these symptoms may result from a large number of entirely distinct pathologic lesions. Thus, he has seen cases in which all the characteristic symptoms of chronic mucomembranous colitis were found on careful investigation to be due to one or other of the following causes: Kinking and partial obstruction of the colon from adhesions or pericolitis; dilatation of the colon and visceroptosis; chronic appendicitis; inflammation or displacement of the uterus or appendages; previous operations on the abdomen resulting in adhesions; cancer of the colon; fibrous stricture of the colon; aneurysm of the abdominal aorta; floating kidney. Many of these conditions are only an indirect cause of the symptoms in that, by causing accumulation of fecal material in the colon, they set up pain and excessive mucus secretion. In addition to these cases in which a mechanical cause for the symptoms can be found, there is a certain proportion, which Mummery has found in his experience to be about 45 per cent., in which there is a definite chronic inflammatory condition of the mucosa of the colon. These cases, he says, are the only true cases of chronic colitis, in that they are the only cases in which a definite inflammatory condition exists. Mummery distinguishes three distinct types of inflammation of the mucosa: (1) The hypertrophic form. The mucous membrane appears swollen, due to submucous edema and is of a paler color than normal, with much sticky mucus. (2) The granular variety, in which there is a markedly granular appearance of the whole visible mucosa, accompanied by considerable inflammation, giving the whole a dusky red color. (3) A well-marked variety in which the visible mucosa looks as if it had been sand-papered. Mummery emphasizes that the diagnosis in many of these cases is very difficult, but much can be done by careful investigation of the stools, examination of the abdomen, and, more especially, by a systematic sigmoidoscopic examination of the pelvic colon. In cases of ulcerative colitis a sigmoidoscopic examination affords the only means of distinguishing this condition from cancer or villous tumor of the rectum, or from multiple papilloma of the rectum, conditions which exactly simulate ulcerative colitis in symptomatology. There are several other varieties which are seen occasionally and which it is important to distinguish. A rare but important form is hemorrhagic colitis. This is a variety of ulcerative colitis in which the whole mucosa of the colon becomes soft and spongy and remarkably hemorrhagic in appearance. It results in profuse bleeding and severe diarrhea. There is also severe toxemia, with high temperature. Most of the cases Mummery has seen have been due to a primary infection of the colon with the *Diplococcus pneumoniæ*, large numbers of these organisms being present in the stools in almost pure culture. The condition somewhat closely resembles enteric fever in symptomatology, but can be distinguished from it by the fact that blood is present in the stools from the first. The disease is very dangerous, but Mummery has had excellent results from appendicostomy. Another rare form of colitis is that due to infection by the bilharzia parasite.

2. Vicious Circles in Skin Disease.—The following classification of vicious circles associated with diseases of the skin is made by Hurry: 1. Circles associated with inflammatory disorders. 2. Circles associated with parasitic disorders. 3. Circles associated with neuroses. 4. Circles associated with the appendages of the skin, hair, nails, sweat and sebaceous glands.

4. Epidemic Paralysis in Hampshire.—England reports seven cases of acute disorder affecting the spinal cord and meninges which do not all conform to the usual type of epidemic acute anterior poliomyelitis, inasmuch as the intense pain in the back of the head and neck, the twitchings of the face, the retraction of the head, amounting in some cases to opisthotonos, the marked rigidity and continued pains in the limbs, the interference with the due control over the bladder and rectum, and, in several instances, the more or less rapid and complete recovery, are quite contrary to the usual experience in that disease.

5. Epidemic Anterior Poliomyelitis in South Derbyshire.—Of the twenty-five cases cited by Moir five were of the encephaloid type and proved fatal, death being due to respiratory

paralysis early in the disease, in one case six hours after the onset. In the remaining twenty cases, of the spinal type, death occurred in three and was due to respiratory paralysis in two. The remaining death occurred a month after onset from acute bronchopneumonia. This gives a total mortality of eight, or 32 per cent. Several cases, which were open to doubt, have been omitted from this analysis. The paralysis affected one leg in eleven cases, both legs in four cases, one arm in two cases, one arm and one leg in one, and all four limbs in two cases. Some of the cases bore a great resemblance to sunstroke and Moir is convinced that exposure to the sun or unaccustomed excessive heat is an important etiologic factor. In most of the cases under his observation, there was no proper means of isolation and in many there were large families of young children who escaped, though they came into more or less intimate contact with the victim. There was no evidence to show in what way the virus was transmitted in any case.

6. **Retention of Fetus in Abdominal Cavity.**—In the notes of a meeting held in September, 1872, just thirty-nine years ago, account is given of Weatherhead's case. In part the history is as follows: At the end of April, 1871, the woman had an attack of enteritis, relieved by opium. After this she thought herself pregnant, as she felt larger and had what she deemed the usual signs of childbearing. At the end of six months there was milk in the breasts. She thought she felt the movements of the child. At Christmas, which would be the termination of the supposed pregnancy, she had severe pains, none of them bearing down. The medical man who saw her found a tumor in the hypogastric region having all the appearance of a fetus in utero. He heard the placental murmur, not the fetal heart. He did not examine for ballottement. The catamenia returned May 3, and have been quite regular to the present time. There is now a very large tumor lying across the hypogastric region. On the left side this is extremely hard; on the right somewhat softer. There is no fluctuation. There appears to be a kind of sulcus in the middle of it. On examining per vaginam the os is very small, slightly open and appears fixed at the left side. The tumor can be distinctly felt through the uterine walls. The sound had not been passed and no examination made per rectum. In the early part of September, 1911, the patient began to suffer from diarrhea with raised temperature and gradually sank, dying about three weeks later. A post-mortem examination disclosed the following condition: The tumor consisted of a fetus lying in the bag of membranes, which were more or less completely calcified. It formed an ovoid mass, which filled up the greater part of the pelvic cavity, the broader end of the ovoid being uppermost. The adjacent coils of intestine were intimately adherent to the sac and had to be peeled off and the parietal peritoneum on the lower part of the anterior abdominal wall was also adherent. The uterus, flattened out by the tumor and atrophied, can be recognized lying in front of the lower part of the mass, with the inner ends of the Fallopian tubes and part of the broad ligament. There is no sign of any fibroid tumor. The fetus lies in the breech position, face looking forward and, in the usual attitude of flexion of the head and extremities. The skin, where it is in contact with the calcified membranes, is for the most part adherent to them. As to the condition of the fetus, there is no calcification of any of the deeper tissues, but there is a good deal of calcareous deposit in the subcutaneous tissue and parts of the skin and according to some authors it would be classified as a lithopedion. The fetus has not undergone that process of dehydration which results in mummification, a condition which has sometimes been recorded in cases of long retention. All the parts are easily distinguishable. The substance of the fetus has a curious waxy or soapy consistency, suggesting that it may be partly converted into that rare material, adipocere. The umbilical cord is seen passing to the remains of the placenta, which is situated laterally on the right. As to the age to which the living fetus had attained before its death, judging from the history of the pregnancy, it ought to be nearly full term. The fingernails reach to the ends of the fingers, but not beyond; a tuft of well-grown hair is visible at one spot on the scalp. The weight, including the membranes, is 3¾ pounds. Weatherhead says it is probable that the primary rupture of the tube occurred at the so-called attack of enteritis mentioned in the early history of the pregnancy, apparently somewhere between the fourth and eighth weeks. The severe pains which the patient had at Christmas, about which time she expected her confinement, may probably have been associated with the onset of false labor, which would coincide with the death of the fetus.

Lancet, London

December 23, CLXXXI, No. 4668, pp. 1755-1820

7 Some Points in Heredity. R. C. Lucas.
8 Electro-Chemical (Ionic) Treatment of Certain Gynecologic Affections. S. Sloan.
9 Case of Ruptured Esophagus. D. W. Roy.
10 Fibroid Induration of Mediastinum Probably Syphilitic. W. Brander and J. B. H. Holroyd.
11 Carcinoma of Bowel. J. S. Manson.
12 *Type of Nervous Vomiting in Childhood. E. B. Smith.
13 Two Cases of Ectopic Pregnancy. W. M. Fergusson.
14 Several Attacks of Appendicitis in Appendix Situated in Sac of Scrotal Hernia; Operation; Recovery. C. H. James.

December 30, CLXXXI, No. 4669, pp. 1821-1829

15 Cancer of Rectum and Its Treatment. P. L. Mummery.
16 Radiography in Intestinal Stasis. A. C. Jordan.
17 Case of Ruptured Extra-Uterine Pregnancy, with Remarks on Diagnosis. I. B. Muirhead.

12. **Nervous Vomiting in Childhood.**—Smith describes a type of nervous vomiting occurring in children about the age of the second detention, which has received but little attention in modern text-books, is not uncommonly seen in the out-patient department of a children's hospital and is not infrequently overlooked. It is not periodic, but is of a persistent character; often, when untreated or when treated unsuccessfully, it may continue for many weeks. It occurs during a meal, or more usually directly the meal is finished, and is of frequent, if not of daily, occurrence. It is painless and effortless and neither preceded by any organic disturbance, nor followed by any ill-effects. No diet, no ordinary gastric sedatives, appear to influence it. But with all this, and this is a feature to which Smith draws special attention, the child seems neither to lose weight nor to suffer in any respect an alteration in its general appearance of well-being. This nervous phenomenon, however, while apparently inducing little or no change in the general health of the child, creates a great deal of distress in the minds of the relatives concerned and generally reflects very little credit on the therapeutics of the practitioner who fails to recognize its real nature. On the other hand, when diagnosed, a very simple remedy suffices in most instances to effect a cure. Observation of both parent and child is often of value. The mother is frequently of a neurotic temperament, one who suffers from headaches and backaches and has little or no control over her offspring. The child, sometimes thin, sometimes well-nourished, is frequently of a reserved and introspective nature. Occasionally the child is emotional and highly timid, one who cries on being undressed, or struggles and shrinks from any examination that involves a stethoscope or spatula. A review of the histories of these cases generally discloses the presence of other functional nervous disorders, such as enuresis, migraine and habit-spasm; or in some cases a rheumatic diathesis. The treatment resolves itself into an elimination of all causes that may aggravate the underlying nervous instability. Removal from unsuitable home surroundings and the application of a little firm moral control will often effect a cure. In obstinate cases the same treatment as is applicable to lienteric diarrhea, namely, small doses of arsenic and opium given just before meals, has, in the author's experience, always proved immediately efficacious.

Journal of Obstetrics and Gynecology of British Empire, London

November, XX, No. 5, pp. 211-267

18 Occurrence of Carcinoma in Cystic Teratomata of Ovary. H. Williamson and J. Barris.
19 Multilocular Ovarian Cyst Containing Teratomatous, Sarcomatous and Papillomatous Elements. M. J. Stewart and C. Eglington.
20 Case of Malignant Cystadenoma of Cervix Uteri. G. W. FitzGerald.

Bristol Medico-Chirurgical Journal, London

December, XXIX, No. 4, pp. 289-344

21 **Present Position of Surgery of Malignant Growths.** C. A. Morton.
22 **Household Syphilis (Syphilis Economica), with Observations on Acquired Syphilis in Infants.** J. A. Nixon.
23 *Tea-Poisoning. S. Neild.
24 **Cardiac Arhythmia; Five Cases.** C. Coombs.
25 **Herpes and Brachial Neuritis.** G. M. Smith.
26 **Bristol Medical Library.** L. M. Griffiths.

23. **Tea-Poisoning.**—The commonest coexisting diseases, Neild says, are those which most frequently lead to excess in tea-drinking. First among these is oral sepsis, due to decaying stumps of teeth, septic gums and pyorrhea alveolaris. During the night the undisturbed incubation of bacteria in the mouth and the accumulation of their products creates a bad taste, that is removed for a time by an early-morning cup of strong tea; the more tannin present in the infusion the more efficient for the purpose. With this early cup of tea we have the best conditions for the rapid absorption of a poison. The solution is hot and concentrated, the stomach has had a long rest and it may be an hour or more before any food is taken. But the presence of a bad taste in the mouth is not the only cause of the craving for tea in these cases; the absorbed toxins from the septic trouble, both by their direct action on the nervous system and by the starvation of that system by the secondary anemia, produce a condition which urgently calls for the stimulant action of tea. The decomposition is also responsible for various disturbances of the digestion and the tea which is taken to relieve the trouble may in turn produce further disturbances on its own account. In women at the menopause nervous instability is a frequent cause of excess in tea-drinking; and although tea seems to brace the nerves for a short time, it also greatly aggravates certain of the symptoms. Among men, those whose occupations create thirst, with the marked exception of brewers' employees, are liable to become excessive tea-drinkers, although it is in sedentary occupations that the effects of tea excess are most rapidly produced. A very large amount of tea is often taken by those whose occupation makes them perspire freely, without producing any distressing symptoms. In the majority of cases of chronic tea-poisoning the symptoms come on very gradually during some months and then rapidly increase during the last few weeks or days before the patient comes under observation. Many of the symptoms are much more prominent and more rapidly produced where there is also sepsis in the mouth or constipation present, particularly the discoloration of the skin and the dyspepsia. Symptoms attributable to the colon are not uncommon, but a dilated colon was found only in a small number of the cases where it was looked for. The roughening of the back of the upper arm is not unusually common in tea-poisoning. The whites of the eyes are not discolored, thus distinguishing the discoloration from a slight jaundice. The hot flushes so frequent in tea-poisoning are, as one would expect, much more distressing at the menopause. Occasionally a patient will complain of polyuria. There is only one pathognomonic sign of tea excess, but it is not present in all cases; that is, the odor of the breath. It is that of musty old books. The cardiac symptoms are more akin to those of tobacco-poisoning than to those of alcoholism, the symptoms of nervous derangement predominating over the signs of muscular degeneration. In six cases of tea-poisoning Neild found that the blood-pressure is not much altered, although in one very severe case it was lowered. Arteriosclerosis is not more common in these cases than would be accounted for by its general frequency, yet the three types of the preliminary stage of arteriosclerosis, as set forth by Stengel, would cover the great majority, if not all, of the cases of chronic tea-poisoning. Some disturbance of the digestion is always present. Myasthenic or atonic dyspepsia may serve as a general hold-all for the symptoms of the indigestion from which these patients suffer. A frequent symptom is a peculiar "sinking sensation," that comes on with striking regularity about an hour and a half after having taken tea, whether with or without food. It comes on quite suddenly and begins with a feeling of movement or contraction at the pyloric end of the stomach. It is caused by excess of tea and yet this excess may consist of the only cup taken in the twenty-four hours, provided that the tea and its method of preparation are sufficiently bad. Constipation is by no means always present, but is usual, and when it does occur greatly hastens the onset of the severe symptoms. As is the case with other astringents, tea may sometimes cause diarrhea. Regulation of the bowels and an alkaline gentian mixture with nux vomica are most efficacious in treatment.

Annales de Gynécologie et d'Obstétrique, Paris

December, XXXVIII, No. 12, pp. 689-759

27 *Hypophysis Extract in Obstetrics. (La médication hypophysaire en obstétrique.) J. Parisot and A. Spire.
28 *The Prematurely Born. (Quelques considérations sur les diverses variétés de prématurés.) A. Herrgott.

27. **Hypophysis Extract in Obstetrics.**—Parisot and Spire review the experimental and clinical experiences on the physiology and pathology of the hypophysis which have been published in recent years, and add the conclusions from considerable experimental research of their own and observation of ten clinical cases. They gave hypophysis extract to four women in labor, hoping thus to rouse the uterus to better contractions; no effect was apparent in one case but in the others tardy contractions followed, although spontaneous delivery occurred in only one of the cases. In two cases of abortion the hypophysis extract failed to accelerate the expulsion of the embryo. They gave the hypophysis extract to four other women to stimulate micturition in the course of delivery or post partum and urination followed in three of the women but not in the fourth. The extract was from the whole gland and they are now engaged in research with the extract of the posterior lobe of the hypophysis alone.

28. **The Prematurely Born.**—Herrgott discusses the various types of the prematurely born, saying that legal viability in France commences after 180 days while medical or obstetric viability accepts the end of the seventh month, or 210 days, as the limit. He refers in particular to the children prematurely delivered when there is reason to fear dystocia, with a passage 8.5 or 9.5 cm. in diameter. By waiting until the last moment when the fetus can safely pass through the natural outlet, it is possible to save the mother from cesarean section while the child is born viable and in good condition. By keeping watch over the increasing size of the head, it is generally possible to determine the proper moment for interference and the child is born in good condition. Herrgott's article supplements Wallich's article on the subject, summarized in these columns, January 6, 1912, page 68.

Archives Générales de Chirurgie, Paris

November, V, No. 11, pp. 1201-1320

29 *Perforation of Low Ulcer in Esophagus. (Perforation de l'oesophage par ulcère. Péritonite diffuse—Laparotomie—Guérison.) L. Sencert.
30 *Thrombosis of Mesenteric Artery Simulating an Abdominal Tumor. (Thrombose de l'artère mésentérique supérieure, simulant une tumeur abdominale.) L. Thévenot and C. Rey.
31 *Aneurysmorrhaphy. C. Monod and J. Vanverts. Concluded.

29. **Perforation of Ulcer Low in Esophagus.**—Sencert reports a case of ulcer in the esophagus, 2 cm. above the cardia, which first revealed its presence by symptoms of perforation and acute peritonitis. As it proved impossible to suture the perforation and the patient was almost moribund, he drew up the fundus of the stomach and wrapped it around the lower end of the esophagus, holding it in place by a few sutures 5 or 6 mm. beyond the perforation. The peritoneum was filled with a greyish, odorless fluid but he drained it away and introduced besides into the peritoneum a large tube through a buttonhole in the iliac fossa on each side. The operation was completed in fifteen minutes and as soon as the patient had been returned to bed, half sitting up, Sencert connected one of the iliac fossa tubes with a tank of oxygen, thus flushing out the peritoneum with a continuous stream of oxygen, supplemented by proctoclysis, flushing the rectum with a continuous stream of hot saline solution through a two-way tube, and the ordinary stimulants. The patient was a woman of 25 and her condition was very precarious for twenty-four hours, but then she rapidly improved and the oxygen was discontinued the

sixth day. The eleventh day the temperature rose a little and very little pus escaped through the drains so he connected one tube with the oxygen tank again, and pus poured anew out of the drains. The oxygen was discontinued the fourth day and the patient left the hospital in good condition the thirtieth day after the operation. Sencert makes a point of connecting each of the drain tubes in turn with the oxygen tank, extolling this continuous flushing with oxygen as a most important aid in drainage. It is, he says, a physiologic antiseptic which exalts the defensive powers of the peritoneum, combats paralysis of the viscera, promotes peristalsis, and has a stimulating action on the circulatory and respiratory apparatus. Of his twelve patients with diffuse septic peritonitis treated with the oxygen he was able to save six and still another recovered from the diffuse peritonitis but succumbed later to an unsuspected complication. His proportion of recoveries has thus increased from 29 to considerably over 50 per cent. His previous communication on the advantages of oxygen flushing was summarized in THE JOURNAL, May 28, 1910, p. 1829.

30. **Thrombosis of Superior Mesenteric Artery.**—Thévenot and Rey review the ordinary syndrome caused by this condition, comprising the six elements: sudden intense pain, early vomiting, possibly with admixture of blood, intestinal hemorrhage, early diarrhea, diffuse meteorism and subnormal temperature. They then report a case in which there was only one of these symptoms, namely, the characteristic pain. A large tumor rapidly developed at the site of the pain which radiated to the sternum and legs. The tumor filled the space between the right costal arch and the spine of the ilium. The tumor was movable but did not rise and fall with the breathing. The right lumbar region was tender. The elderly patient was in the hospital at the time, being treated for prostatic retention and suppuration, and an operation was out of the question. The necropsy findings were typical and there was some arteriosclerosis. In another case and in two on record this rapid tumefaction in the region of the infarction was the main or only symptom aside from the pain.

31. **Aneurysmorrhaphy.**—Monod and Vanverts summarize 103 cases from the literature, including a number from THE JOURNAL, classifying them according to the artery involved and whether the operation was restorative or reconstructive.

Presse Médicale, Paris

December 16, XIX, No. 100, pp. 1033-1048

32 Percussion of the Chest and the Resistance Experienced by the Finger. (Percussion thoracique et résistance au doigt.) E. Rist.
33 *Tabes and General Paralysis Possibly Result of Oversaturation with Antibodies; Means to Neutralize Them. (Essai d'une conception nouvelle de la parasyphilis, et thérapeutique qui en découle.) H. Danlos.
34 Treatment of Acute or Subacute Mental Disease in Public Hospital. (Assistance hospitalière spéciale et états mentaux aigus ou subaigus.) R. Benon.
35 Photothermotherapy. (Principes physiques et physiologiques du surchauffage lumineux.) M. de Laroquette.

December 20, No. 101, pp. 1049-1056

36 Mistakenly Diagnosed Fracture of the Neck of the Femur or Idiopathic Coxa Vara? (Fracture du col méconnue ou coxa-vara essentielle de l'adolescence?) M. Savariaud.
37 *Collateral Circulation in the Thorax with Tracheobronchial Lymphadenitis. (Circulation collatérale thoracique et adénopathie trachéo-bronchique.) G. Cuny.

33. **Tabes and General Paralysis and Their Treatment on New Basis.**—Danlos accepts that tabes and general paralysis develop only in persons who have had syphilis but in whom it has ceased to be active. He does not know of an instance of living spirochetes being found at necropsy of persons with parasyphilis. This fact, in connection with the immunity to new infection possessed by old syphilitics, suggests that this immunity is due to production of antibodies and that overproduction of antibodies induces in turn such changes in the nervous system that the syndrome of tabes or general paralysis is liable to follow. If this conception, namely, that overproduction of antibodies is responsible for the development of parasyphilis, is found to be true, it may be possible to counteract the excess of antibodies and thus remove the cause of the parasyphilis. He suggests that it might be possible to utilize in this line the familiar fact that in the right proportions, antibody, antigen and complement neutralize each other. The antigen is not rigorously specific, so that we have the choice between a number of substances able to act as syphilitic antigens. Danlos offers this new therapeutic suggestion with some diffidence, remarking that in medicine as in other sciences, new ideas may not prove all that is hoped for them, but that light may result from the impact between several ideas.

37. **Collateral Circulation in the Chest Wall with Lymphadenitis.**—Cany was impressed with the number of his child patients who had a prominent network of veins in the front of their chests. He found signs of this collateral circulation pronounced in all but seven of fifty-eight children with some affection of the lower air passages or adjacent lymph-nodes; the conditions induced secondarily by the relative paresis of the muscles concerned in respiration, the defective development of the chest, tendency to scoliosis, etc., readily explain the disturbances in the circulation. This collateral circulation indicates measures to aid in developing the chest, supplemented by direct medication of the inflamed lymph-nodes. It is possible, he relates, to act directly on the lymph-nodes by inhalation of a saline spray. The lymph carries directly to the adjacent lymph-nodes any substance reaching the alveoli of the lungs.

Revue de Médecine, Paris

November, XXXI, No. 11, pp. 761-810

38 Case of Cerebral Hemorrhage from Phlebitis. (La phlébite des veines cérébrales.) H. Claude.
39 History of Treatment of Tuberculosis in Europe. (La phthisiothérapie en occident pendant le moyen âge et les temps modernes.) M. Piéry and L. Sarrazin.
40 Measurement of Muscle Tone. (Comment on mesure le tonus musculaire avec mon myotonomètre.) P. Hartenberg.
41 *Psychasthenic Epilepsy. (L'épilepsie psychasthénique. Les raptus.) J. Lépine.

41. **Psychasthenic Epilepsy.**—Lépine remarks that the word "epilepsy" is derived from a root meaning to surprise, so that the term is peculiarly applicable to the condition of apprehension, agitation or hypochondria sometimes observed in the predisposed as an aggravation of their previous tendency. The special feature is that this severe and chronic aggravation comes on suddenly at a certain moment, day or night, following a sudden fleeting sensation of pain and apprehension impossible to describe as it occurred and vanished so abruptly, but yet it leaves the patient different from what he was before. In the four cases reported, this seizure was evidently made up of emotional and circulatory factors and disturbances. Treatment should be usually both psychic and with heart tonics and general hygiene. One patient took course after course of treatment at various sanatoriums without relief but finally was cured by general hygiene and being persuaded to resume his business life. Another with a chronic phobia was cured by heart tonics alone, after all other measures had proved ineffectual. Lépine has witnessed acute obsessions develop with failing compensation with heart defects.

Archiv für Verdauungs-Krankheiten, Berlin

December, XVII, No. 6, pp. 647-803

42 *Act of Swallowing. (Ueber die normalen Vorgänge beim Schlucken und die Schluckkraft.) J. Schreiber.
43 *Case of Atrophy of Entire Gastro-Intestinal Tract. (Zur Frage über die Atrophie des Magendarmkanals.) L. Golubinin and Kontschalowski.
44 Nutrient Enemas in Treatment of Stomach Disease. (Zur Rektumernährung in der Behandlung von Magenkrankheiten.) J. Dudley-Dunham (Columbus, Ohio).
45 *Butterine Poisoning. (Margarinevergiftungen.) F. Schilling.
46 *Retarded Evacuation of the Stomach with Intestinal Disease. (Verzögerung der Magenentleerung bei Darmkrankheiten.) A. Borgbjärg.
47 *Tender Points in the Back with Gastric Ulcer. (Die diagnostische Bedeutung der dorsalen Schmerzdruckpunkte des runden Magengeschwüres.) F. Seidl.

42. **The Act of Swallowing.**—Schreiber says that the physiology of swallowing is acquiring practical interest on account of the modern plastic operations on the esophagus. His research has demonstrated that it is a complex phenomenon, made up of a number of factors, like the circulation of blood from the heart to the periphery.

43. **Atrophy of the Entire Gastro-Intestinal Tract.**—Golubinin's patient was a woman of 35, of a healthy family and apparently healthy herself until 1903 when chronic intestinal

catarrh developed and the entire gastro-intestinal canal became almost totally atrophied, the resulting progressive disturbances proving fatal by the end of 1910. The blood-findings were not those of pernicious anemia, but the floating tenth rib and enteroptosis suggested a possible congenital weakness of the digestive organs, aggravated by numerous pregnancies.

45. **Butterine Poisoning.**—Schilling states that a number of cases of gastro-intestinal derangement were encountered in 1911 traceable to the use of substitutes for butter made with some injurious substances. The syndrome frequently suggested paratyphoid or ptomaine poisoning, the patients complaining of nausea, vomiting and headache with diarrhea and depression for days, or vertigo, pain and stiffness in the arms and legs and a feeling of hemiplegia. He discusses the various substances that are being used now in the manufacture of oleomargarine, the manufacturers being always on the alert to find cheaper ingredients. Schilling states that the German law requires admixtures of 16 per cent. sesame oil with all artificial butter, and consequently tests for sesame oil in the stools permit the tracing of the gastro-intestinal derangement to butterine as a possible cause.

46. **Delay in Evacuation of the Stomach with Certain Localizations of Intestinal Disease.**—Borgbjärg found that the motor functioning of the stomach was retarded in a young woman with tapeworm, while after expulsion of the parasite the stomach functioning was found normal. In another case of tapeworm the motor functioning was found normal. In seven cases of an intestinal tumor the motor functioning of the stomach was decidedly impaired when the tumor was in the small intestine and ileocecal region as also with chronic appendicitis, while tumors lower than this in the bowel did not seem to influence the gastric motor functioning. He cites other authors who have noticed a connection between a bowel affection and delay in the emptying of the stomach and restoration of normal motor functioning after removal of the segment of bowel involved. In one of Borgbjärg's cases the gastric symptoms overshadowed the intestinal, and the patient was given a course of treatment for the assumed gastric ulcer but without benefit; all symptoms subsided after removal of the appendix. In his four other cases of chronic appendicitis during the last year the gastric motor functioning was normal. In a case of cancer and one of an inflammatory tumor, both in the cecum, the gastric motor functioning was impaired and returned to normal after the operation on the cecum. In four cases of cancer in the transverse or ascending colon or sigmoid flexure the motor functioning of the stomach was constantly normal.

47. **Tender Points in the Back with Gastric Ulcer.**—Siedl confirms the assertions of Boas and others in regard to the diagnostic importance of tender points in the back, along the side of the spine, accompanying certain localizations of an ulcer in the stomach. The deeper and larger the ulceration, the more numerous, larger and more painful the tender points. As the ulcer heals the points cease to be sensitive. The tender points may be minute or as large as a penny or up to the size of half a dollar or more, but the tender spot is always sharply defined from its non-tender environment. The number of tender points varies in different cases, and one side may have them and the other not, or they may be symmetrical. He gives a diagram showing the composite findings in seven cases in which the diagnosis was confirmed by an operation or necropsy. The pressure is applied with the middle finger, gradually increasing the force. The patient shrinks away when a tender spot is reached, and this sudden jump, the *Zuckungsphänomen* is characteristic. The sudden pain may be quite severe although the skin over the spot is not tender. He gives the findings with a summary of seven cases of an ulcer of the pylorus, twelve with ulcer at other points, four with erosions at various points, which likewise are accompanied by from one to four tender points, while in four cases of a gastric neurosis or gastroptosis, although the symptoms otherwise simulated ulcer, yet the lack of the tender points excluded it. With ulcer at the pylorus, the tenderness is most pronounced or exclusively on the right side; the tender points are along the edge of the tenth to the twelfth dorsal vertebræ and the first to the third lumbar. With an ulcer in the posterior wall of the stomach, the number of tender points is large, extending to the cervical vertebræ, reaching possibly seventeen on each side, but generally the tenderness is most pronounced on the left side. With ulcers in the lesser curvature, the tender points form a chain extending from the seventh dorsal to the third or fourth lumbar vertebræ.

Berliner klinische Wochenschrift, Berlin

December 25, XLVIII, No. 52, pp. 2333-2364

48 Toxin-Destroying Properties of Leukocytes. (Ueber die giftzerstörenden Eigenschaften der Leukocyten.) M. Massone.
49 Influence of Salvarsan on the Wassermann Reaction in Normal Rabbits. (Beeinflussung der Wassermann'schen Reaktion des normalen Kaninchens durch Salvarsan.) G. Emanuel.
50 Precociously Developed Male Pseudohermaphrodite. (Frühreifer Scheinzwitter.) R. Asch.
51 *Treatment of Gonorrheal Cervicitis. (Zur Behandlung der Cervicalgonorrhöe.) Wagner.
52 Idiosyncrasy to the Roentgen Rays. (Zur Frage der Idiosynkrasie gegen Röntgenstrahlen.) H. E. Schmidt.
53 Roentgenotherapy in Obstetrics and Gynecology. (Verwendung der Röntgenstrahlen in der Geburtshilfe und Gynäkologie.) E. Runge.

51. **Hot Irrigation of Uterine Cervix in Treatment of Local Gonorrhea.**—Wagner uses a wire frame to distend the walls of the vagina, with a solid rubber funnel opening to protect the clothing. The water is kept at a uniform temperature by passing from both the hot and cold water faucets into a spherical receptacle that has a thermometer mounted in it, so that the mixture can be maintained at a constant temperature of 45 C. and be shut off by a stopcock at will. He has been applying therapeutic hyperemia in this way for more than a year in his service at Frankfurt a. M., using from 20 to 25 liters of the hot water to flush the parts once a day, the patients continuously in bed. Once a week mucus from the cervix is examined for gonococci, and the treatment is kept up until none has been found on three examinations. In 85 per cent. of the cases the gonococci had disappeared in from twenty-six to thirty-five days, and by the ninetieth day in all the others. The method seems to be peculiarly effective for gonorrheal vaginitis in little girls.

Deutsche medizinische Wochenschrift, Berlin

December 21, XXXVII, No. 51, pp. 2361-2408

54 Present Status of Gout. (Ueber Wesen und Behandlung der Gicht.) P. F. Richter.
55 Aid of Roentgenoscopy in Diagnosis of Internal Disease. (Die Förderung der Diagnose innerer Krankheiten durch das Röntgenbild.) G. Treupel and F. M. Groedel.
56 Influencing the Temperature of the Stomach by Various Hydrotherapeutic Measures. (Ueber die Beeinflussung der Magentemperatur durch verschiedene hydrotherapeutische Applikationen und ihre Messung mit dem "Fieberregistrierapparat.") Eichler and Schemel.
57 *Induced Pneumothorax. (Apparate und Operationstechnik für den künstlichen Pneumothorax.) C. Forlanini.
58 Simultaneous Contrast Stain for Diphtheria Bacilli. (Eine neue einzeitige Doppelfärbungsmethode für die Polkörperchen der Diphtheriebazillen.) M. Raskin.
59 Medical Impressions of the Congo Region. (Vom Kongo und Neu-Kamerun.) Haberer.
60 *The Application of Chemotherapy to Cancer. (Beiträge zum Problem: Geschwülste von der Blutbahn aus therapeutisch zu beeinflussen.) A. v. Wassermann, F. Keysser and M. Wassermann.

57. **Induced Pneumothorax.**—Forlanini reviews extensive experimental and clinical experience with this method of immobilizing the lung in unilateral pulmonary tuberculosis by injection of a gas into the thorax. He describes the technic which avoids danger of gas embolism, with illustrations of his improved portable apparatus for graduating the amount and pressure of the nitrogen. He has been studying this method of treating unilateral tuberculous lesions since 1890 and has applied it in 134 cases.

60. **Treatment of Cancer by Drug Reaching the Tumor by Way of the Blood.**—Wassermann's communication on the elective action on cancer cells of selenium injected into the bloodstream was summarized in the Berlin Letter, January 13, page 127, and discussed editorially on page 120. He lays great stress on the importance of providing facilities for the drug to display its action, comparing conditions to a car which runs easily to its destination when rails have been laid for it. Without rails it is practically immovable and inert. In the research reported, he utilized the exceptional diffusing power

of eosin as the rails on which to run the selenium into the system and send it straight to the cancer cells, which it seizes on with selective and exclusive avidity.

Medizinische Klinik, Berlin

December 24, VII, No. 52, pp. 2005-2044

61 *Suction Bell in Surgery. (Die Verwendung der Ansaugung in der operativen Chirurgie.) F. Krause.
62 Meningeal and Cerebral Symptoms in Infants. (Meningeale und cerebrale Krankheitsbilder beim Neugeborenen und Säugling.) W. Knöpfelmacher.
63 Treatment of Retention of Fetal Membranes. (Behandlung der Retention von Eihäuten bei bestehendem Fieber.) O. v. Franqué.
64 Inhalation of Medicinal Sprays in Treatment of Tuberculosis. (Inhalationen bei der Phthisiotherapie.) F. Wehmer.
65 Borax in Treatment of Epilepsy. P. Jödicke.
66 Synergy of Different Parts of Gastro-Intestinal Tract. (Die Synergie der einzelnen Teile des Verdauungstraktus.) A. Bickel.

61. **Suction as Aid in Operations.**—Krause states that the application of a suction bell as an aid in holding and removing a tumor has proved of great importance in a number of operations, especially on the brain. His first communication on the subject was summarized in THE JOURNAL, Sept. 18, 1909, p. 980. He now extols anew the advantages of thus being able to lift up the tumor without prying it up from behind, and relates further experiences with the method in operations on the thorax. The suction must be so strong that the glass bell and the tumor form a single solid object and can be handled as such, but not strong enough to suck the cerebellum, medulla or other organ involved entirely into the vacuum apparatus. A small hole in the side of the bell, convenient to close by the finger, permits entrance of air as the finger is raised. He reports a case in which a large enchondrosarcoma in the right wall of the chest was removed and the lung kept from retracting during the operation by the hold of a vacuum bell, which effectually substituted the otherwise indispensable differential pressure procedure in this instance, as shown in the illustration. In another case the hold of the vacuum bell was all that rendered possible the effectual excision of a deep-lying, friable goiter. The vacuum in the glass bell is induced by a connection with the hydrant on the principle of a water-jet vacuum pump.

Lung kept from collapsing by vacuum bell.

Münchener medizinische Wochenschrift

December 19, LVIII, No. 51, pp. 2721-2784

67 *Diagnosis and Treatment of Tuberculosis of the Kidney. (Zur Diagnose und Therapie der Nierentuberkulose.) H. Hohlweg.
68 *Diagnosis of Perforating Aneurysm of Cerebral Artery. (Zur Diagnose perforierender Aneurysmen der Hirnarterien.) H. Wichern.
69 Oatmeal or Wheat for Diabetics. (Hafer- oder Weizenmehlkur?) M. Klotz.
70 Roentgenoscopy of the Gastro-Intestinal Tract. (Zur Röntgenuntersuchung des Verdauungskanals.) F. Best and O. Cohnheim.
71 Pseudoneuritis and Congenital Anomalies of the Optic Nerve. (Ueber Pseudoneuritis und andere differentialdiagnostisch wichtige kongenitale Anomalien des Sehnervenkopfes.) F. Salzer.
72 Bacterial Content of Distilled Water in Druggist's Stock. (Ueber den Bakteriengehalt des in Apotheken erhältlichen destillierten Wassers.) P. T. Müller.
73 Sterilization of Rubber Gloves. (Praktische Erfahrung über Sterilisierungsmethoden von Gummihandschuhen.) B. Kozlowski.

67. **Tuberculosis of the Kidney.**—Hohlweg relates that he has obtained the best results in diagnosis of tuberculous kidney disease by cystoscopy and catheterization of the ureters, and regards these measures as the most reliable of all and the best, as no time is wasted. If prompt operative measures are impracticable, he institutes a course of tuberculin treatment and reports four cases in which this alone gave excellent results, amounting to a complete clinical cure in the case of one patient, a woman of 49. Two years later guinea-pigs inoculated with urine from the kidney previously involved showed no signs of infection.

68. **Diagnosis of Perforating Aneurysm of Cerebral Artery.**—Wichern remarks that the location of the aneurysm outside of the brain is the rule, and this imparts a special character to the resulting disturbances, the sudden onset of the symptoms and the serious disturbances from traction or pressure on the nerves in the immediate vicinity. The walls of the aneurysm are elastic, so that it fluctuates in size and symptoms appear and disappear with this fluctuating course. In 222 cases of cerebral aneurysm he has found in the literature, a congenital predisposition was manifest in 24.5 per cent. This is particularly evident when the subjects are under 40 and no other cause for the aneurysm can be discovered. A cerebral aneurysm is liable to have perforation occur more than once, this peculiar recurring character of the brain symptoms being a marked characteristic of these cases. Cautious lumbar puncture is indispensable to confirm the diagnosis; he reports three cases in which this first cleared up the clinical picture. Differentiation is important on account of the possibility of surgical relief, or at least of benefit from subcutaneous injection of gelatin. The gelatin treatment promises well as aneurysm in the cerebral arteries displays a special tendency to thrombus development.

Therapeutische Monatshefte, Berlin

December, XXV, No. 12, pp. 701-772

74 *Breast Milk for Sick Infants. (Kranke Kinder bei Ernährung mit Frauenmilch.) L. Langstein and E. Hoerder.
75 *Transplantation of Free Flaps of Fascia. (Die freie Transplantation von Faszien.) M. Kirschner.
76 Influencing of Gastric Juice by Absorbent Substances. (Beeinflussung des Magensaftes durch adsorbierende Stoffe.) L. Lichtwitz and F. W. Greef.
77 *Extraction of Hairpin from Female Bladder. (Ueber das Entfernen von Haarnadeln aus der weiblichen Blase nach einem einfachen Verfahren.) J. Voigt.

74. **Change to Breast Milk for Sick Infants.**—Langstein and Hoerder have been trying to deduce some general rules for guidance from their experience with 188 infants who had previously been artificially fed and had developed severe intestinal catarrh, or had serious atrophy in the gastro-intestinal tract with acute derangement—the condition known as decomposition. The breast milk was always drawn for the sick infants in order to graduate the amounts and spare the child the exertion of sucking and also to keep the breasts in good condition. Of the 188 infants, 41 per cent. began to thrive at once and 18 per cent. improved, but more slowly, while 15 per cent. of the infants died and 26 per cent. showed no improvement and began to thrive only when artificial food was given. One lesson learned from the experiences related is that the general condition and all the elements of the clinical picture must be taken into account, not one alone, in estimating the benefit or damage from the change to breast milk. The stools may be far from normal even when the infant is improving; this should not lead to a change in the diet when the general condition shows benefit. The promptest results may be anticipated in the cases of chronic digestive derangement in which the stools are nearer to normal, showing that the digestive organs are "resistant." The prognosis is the more unfavorable the more numerous the preceding acute disturbances with loss of weight and the lower the constitutional vitality. A case is related in detail with diagram to illustrate the point that an increase in weight is not a good sign unless the general condition improves parallel; in this instance no improvement was observed on breast milk but the weight increased on artificial food although the general condition kept growing graver and the child died. Such cases confirm the assumption that the cause of disturbances on breast milk should not be sought in the milk but in the fact that the child is constitutionally below par. Four other children in this family had died in infancy; there was no trace of syphilis. A number of the infants increased in weight on the breast milk for a few days and then the weight kept at a constant level for a time, up to several weeks; this is evidently a period of repair—the organism takes some time to

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repair the previous damage and get ready to work properly, and then follows a rapid gain in weight as the body begins to make tissue. These cases are particularly instructive as they warn against changing the food when the infants are seen to be no longer gaining in weight; here again the general aspect and condition are the main points. The tendency to vomit may persist; this is generally one of the last symptoms to be abolished by the change to breast milk. Infants over a year old may need food with more tissue-builders, protein and salts, than are found in breast milk. Buttermilk with carbohydrate addition was found useful in changing from breast milk to artificial food. It is possible that estimation of the phosphates in the urine may prove an objective index of the digestive capacity as Moll has asserted. In health he never found over 1.5 mg. of phosphates (P_2O_5) in 10 c.c. of urine, while over 5 mg. invariably accompanied severe sickness. Recent (unpublished) research of others has confirmed the accuracy of this index of morbid conditions and suggests its importance as a guide for treatment in puzzling cases. It seems probable that the child's state of health is reflected in his urine, and further research in this line may prove still more illuminating.

75. **Fascia Flaps for Free Transplantation.**—Kirschner reports excellent results from the use of fascia taken from the side of the patient's thigh, from the iliotibial band of the fascia lata, when the site to which it is to be transplanted is fully prepared for it. The still warm fascia is transferred to its new site and has proved an ideal material for the plastic operation, etc., in over fifty cases in his own and others' experience. The fascia invariably healed in place and grew stronger as functional demands were made on it. It always healed without reaction, even in infected cases, but there is a risk in this condition. He has had no opportunity to use the fascia to substitute a tendon, but thinks it is eminently fitted for this. His experience has been mainly with the transplanted fascia to wrap around a vessel or organ after suture, to close defects and reenforce hernia operations, to interpose between organs that had grown together as in operations for vesicovaginal fistulas, to make a sling in which to suspend a displaced kidney or other organ and to close a gap in the dura. He has also found narrow strips of the fascia an admirable material for suturing bones and other tissues and reliable as a ligature.

77. **Removal of Hairpin from the Bladder.**—In Voigt's case the hairpin stood upright in the bladder, its points buried in the lower wall. He pushed it up with the beak of the cystoscope to release the points, and then, guided by the finger in the vagina, he drew it out, points first, by pressure on the top of the hairpin from the light-holder of the cystoscope. The hairpin was stiff and the points 13 mm. apart.

Wiener klinische Wochenschrift, Vienna

December 21, XXIV, No. 51, pp. 1759-1790

78 *Serodiagnosis of Carcinoma. (Zur Diagnose des Karzinoms.) E. Freund and G. Kaminer.
79 Toxicity of the Urine During Pregnancy and the Puerperium. (Verhalten der Harntoxizität in der Schwangerschaft, Geburt und im Wochenbett.) R. Franz.
80 No Basis for Assumption that Cretinism is Transmissible. (Zur Kontaktinfektion des Kretinismus.) A. Flinker.
81 Improved Technic for Care of Gums in Applying Crown to Teeth. (Eine neue Methode zur Verhütung und Heilung von Zahnfleischwucherungen um Wurzelränder.) H. Bardach.

78. **Serodiagnosis of Carcinoma.**—Freund and Kaminer have continued their research on the different behavior of the serum of healthy persons and those with cancer in regard to the destruction of cancer cells in suspension. They tabulate here the details of 113 of the 250 cases in which the test has been applied since their last communication. The results were specific in all but eleven instances and a repetition of the test gave positive findings in some of these; in three cases the trouble was only a benign liver affection, while in six other similar liver cases the reaction was negative. The reaction is independent of cachexia and age. The carcinoma material (preferably from the cadaver) is crushed and passed repeatedly through a coarse cloth or several layers of gauze after the carcinoma material has been mixed with ten times its volume of a 0.6 per cent. salt solution with 1 per cent. acid sodium phosphate. The turbid filtrate contains the entire cell material. A limpid extract of this fluid is made for the test by adding to it a 5 per cent. solution of acetic acid in the proportion of 5 parts to 100 parts of the fluid, heating to 80 C. on the water bath for fifteen minutes and, after cooling, neutralizing with a solution of sodium carbonate (litmus), heating again in the water bath and filtering. The limpid filtrate thus obtained is the fluid to be used for the test. The filtrate does not keep well and has to be tested anew each time with a normal and a known cancer serum to ascertain its efficiency at the time. On addition of normal serum the fluid remains limpid while with cancer serum it is seen to be distinctly turbid when held up against the light. The blood-serum from the patient must have been drawn not less than several hours and not more than two days before. Ten drops are placed in each of two test-tubes and 2 c.c. of the above extract is added to the first tube and 2 c.c. of a control solution to the second tube. The control solution is made with the same ingredients and in the same way as the above extract except that it contains no carcinoma material. The test can be effectually controlled further by the power of healthy serum to protect the carcinoma cells against destruction. This requires 2.5 c.c. of serum, so that as much as 6 c.c. of blood has to be taken for the combined tests, consequently the protection test is not always applicable, but it is very instructive when it can be applied. In twenty normal pregnant women the original test gave the cancer reaction in 60 per cent. but the control protection test was always negative, while the findings with the two tests were constantly parallel in the cancer cases. In four cases the test revealed the presence of a totally latent and unsuspected cancer in the stomach or intestine. The lesion for which the test had been applied, a mammary tumor, stenosis of the larynx or peritonitis, proved to be of tuberculous, or of other nature, but necropsy revealed the symptomless cancer at some point in the digestive tract responsible for the positive reaction. Another interesting feature of the test is that the reaction in eight operative cancer cases changed from positive to negative two or three months after removal of the growth; the protection reaction still persists positive, however. Dried normal serum may be used but the results are not quite so reliable as with fresh serum. The carcinoma cells are obtained early and are separated from other elements as completely as possible by decanting three times. Thymol has proved useful as a preservative, better than sodium fluorid. The turbidity of the fluid and the proportion between the number of the cells before and after the application of the serum are the criteria of the test. If the number of cells remains the same or only slightly less and the protection reaction is manifest, carcinoma may be accepted. In the tables the proportional numbers of the cells are given as 22:20; 20:20; 25:25, etc., in the cancer cases, while the proportions were 20:3; 34:11; 20:0; 26:0; 16:0, etc., in the cases of tuberculosis, leukemia, nephritis and pneumonia.

Zentralblatt für Chirurgie, Leipsic

December 23, XXXVIII, No. 51, pp. 1657-1688

82 Palpation of Kidney. (Ueber die Lagebeziehung der Kolonflexuren zur Niere und zu Nierentumoren.) T. Hausmann.

Zentralblatt für Gynäkologie, Leipsic

December 23, XXXV, No. 51, pp. 1705-1728

83 *Massage for Prevention of Linear Pigmentation of the Skin in Pregnancy. (Ueber Schwangerschaftsstreifen und ihre Verhütung.) W. Barfurth.
84 *Endogenous Infection in Gynecology. (Selbstinfektion und Gynäkologie.) W. Liepmann.
85 Antimeristem in Treatment of Inoperable Cancer of the Uterus. (Ueber mehrere Heilungun von inoperablem Uteruskarzinom bei Behandlung mit Antimeristem.) O. Schmidt.
86 Repeated Tubal Pregnancy After Plastic Operation on Fallopian Tube. (Wiederholte Tubargravidität nach Tubenplastik.) W. Wessenberg.

83. **Massage for Prevention of Pregnancy Stripe.**—Barfurth says that the linear pigmentation liable with the abrupt stretching of the skin can be prevented by a little systematic massage of the region, once or twice a day for fifteen or thirty minutes, taking up a fold in the skin for the massage each time. He reports the application of the method in twelve cases; no by-effects were observed in any instance although the massage was done by pupil nurses.

84. **Endogenous Infection in Gynecology.**—Liepmann hails as an advance Winter's appeal for preceding bacteriologic examination before every gynecologic operation. Liepmann has long preached the advantages of his *Dreitupferprobe*, that is, bacteriologic examination of three swabs applied to the field of operation one before, one during and one at the close of the operation. This permits accurate estimation of endogenous infections, and Winter's appeal illuminates the importance of "operation bacteriology;" for this Liepmann thinks his three-swab test is far the simplest and most instructive technic.

Zentralblatt für innere Medizin, Leipsic

December 23, XXXII, No. 51, pp. 1241-1264

87 **Indican in the Blood.** (Ueber das Blutindikan.) W. v. Moraczewski and E. Herzfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

December 19, XXXII, No. 152, pp. 1611-1618

88 **Malta Fever.** (Sorgenti e veicoli della febbre del Mediterraneo.) G. Caiozzo.

December 21, No. 153, pp. 1619-1626

89 *Complement-Fixation Test for Cholera. (Di una nuova applicazione del metodo biologico della fissazione del complemento nella diagnosi rapida del colera.) A. Connio.

December 24, No. 154, pp. 1627-1642

90 **Tuberculin in Diagnosis of Syphilis.** (La tubercolina nella diagnosi della sifilide.) G. Burzi.

December 26, No. 155, pp. 1643-1650

91 **General Anesthesia with Morphin, Scopolamin and Chloroform Combined.** (Sulla narcosi pantopon-scopolamino-cloroformica.) C. Mantelli.

89. **Complement-Fixation Test for Cholera.**—Connio applies the test to fresh stool after heating it to 60 C. for twenty minutes; 1 c.c. is sufficient for the test. For the antibody he uses an agglutinating cholera immune serum: for the alexin fresh guinea-pig serum diluted twenty times with physiologic solution; the hemolysins are from the serum of rabbits prepared with beef red corpuscles and the red corpuscles used in the test are likewise from beef; they are suspended in twenty parts of physiologic solution. The results obtained in eleven cases to date all confirmed the accuracy and reliability of the test, while the findings were constantly negative in patients with other affections. The products of the cholera vibriones in the gastro-intestinal tract amply explain the presence of the antigen in the stools.

Ugeskrift for Læger, Copenhagen

December 14, LXXIII, No. 50, pp. 1871-1933

92 *Chronic Otitis Media in Rural Districts. (Bemærkninger om Otitis media suppurativa chronica hos Patienter paa Landet.) E. Nielson.

December 21, No. 51, pp. 1934-1982

93 *Roentgenotherapy of Superficial Cancers. (Behandling af Hudkarcinom med Röntgenstraaler med særligt Henblik paa Underlæbekankroldet.) J. F. Fischer.

92. **Otitis Media in Rural Districts.**—Nielsen has reexamined or received reports from 112 patients who had been in his charge for chronic suppurative otitis media in the five years ending with 1909. Only thirty-two of the patients were under 15, and all lived in the country. There had been a discharge from the ear for at least a year before any medical assistance had been obtained. Only one of his patients with chronic otitis media succumbed to cerebral complications; fourteen of the thirty-two children were entirely cured and seventeen adults, but eighty-one still have the suppuration. Nielsen deplores the prevailing carelessness and pessimism in the rural districts that allow otitis media to run for years without attempts to check it.

93. **Roentgenotherapy of Superficial Cancer.**—Fischer reports the details of twenty cases of cancer, generally on the lip, which yielded to Roentgen ray exposures with complete disappearance of all traces of malignant disease. He extols the rapid and thorough curative action of the rays when the cancer is not too deeply rooted. The extent of the surface is immaterial, but the dosage must be strong enough to induce a powerful reaction. The exposures must be continued as long as there is reason to suspect that a trace of the malignant disease is left. With appropriate technic recurrences are rare. During the last five or six years he has exposed also a zone of normal skin about 1 cm. outside of the lesion, the skin beyond being protected with a sheet of lead, and has applied the maximal dose at two sittings, with a one or two-day interval. The reaction followed in from six to nine days and there was more or less ulceration for several weeks; then the healing process began and by the fifth or seventh week in the favorable cases the epithelioma had entirely vanished. If the lesion does not all subside and if hard lumps can still be felt, the treatment must be continued. This technic is what Kienböck calls the "expeditive method," and all Fischer's patients free from recurrence to date had been treated by this maximal-dose method. None of his patients with cancer of the tongue seemed to derive any benefit from the roentgenotherapy; at most, he thinks, it can be relied on only for prophylaxis after operations. He never ventured this treatment for carcinoma of the lip until the last three or four years, when six patients refused an operation, and all the growth vanished under the exposures to the Roentgen rays and there has been no sign of recurrence in any instance to date, over three years in one case. The cosmetic result is ideal, he says; not a trace of the growth is left in five cases and in the sixth merely a slight cicatricial depression. He advises to remove any enlarged lymph-nodes in the region if metastatic involvement is suspected.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS. By Jay Frank Schamberg, A.B., M.D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition. Cloth. Price, $3. Pp. 573, with Illustrations. Philadelphia: W. B. Saunders Company, 1911.

INFECTIONS OF THE HAND. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M.D., Assistant Professor of Surgery, Northwestern Medical School, Chicago. Cloth. Price, $3.75. Pp. 447, with 133 illustrations. Philadelphia: Lea & Febiger, 1912.

WOMANHOOD AND ITS DEVELOPMENT. A Treatise on Adolescence Designed for the Young Woman, Embracing the Fundamental Principles of Biology, Physiology, Hygiene and Maternity. By Luella Z. Rummel, Ph.B., M.D. Cloth. Price, $1.50. Pp. 221. Kansas City, Mo.: Burton Publishing Company, 1912.

ARTHRITIS. A Study of the Inflammatory Diseases of Joints. By Peter Daniel, F.R.C.S., Senior Surgeon, Metropolitan Hospital, London. Edited by James Cantlie, M.A. M.B. No. 3, the Medico-Chirurgical Series. Cloth. Price, $4. Pp. 515. New York: William Wood & Co., 1911.

CLINICAL DIAGNOSIS. A Manual of Laboratory Methods. By James Campbell Todd, Ph.B., M.D., Professor of Pathology, University of Colorado. Second Edition. Cloth. Price, $2.25 net. Pp. 469, with Illustrations. Philadelphia: W. B. Saunders Company, 1912.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS. By John C. Da Costa, Jr., M.D., Assistant Professor of Clinical Medicine, Jefferson Medical College. Second Edition. Cloth. Price, $3.50. Pp. 557, with Illustrations. Philadelphia: W. B. Saunders Company, 1911.

CLINICAL IMMUNITY AND SERODIAGNOSIS. By A. Wolff-Eisner, M.D. Translated by Ray W. Matson, M.D., Professor of Histology, North Pacific College of Dentistry and Pharmacy, Portland, Ore. Cloth. Price, $2.50. Pp. 184. New York: William Wood & Co., 1911.

DELAYED AND COMPLICATED LABOR. By Robert Jardine, M.D. (Edin.), M.R.C.S. (Eng.), Professor of Midwifery in St. Mungo's College, Glasgow. Cloth. Price, $3. Pp. 351, with 107 illustrations. New York: William Wood & Co., 1912.

THE NEW PHYSIOLOGY IN SURGICAL AND GENERAL PRACTICE. By A. Rendle Short, M.D., B.S., Senior Demonstrator of Pathology, University of Bristol. Cloth. Price, $2. Pp. 201. New York: William Wood & Co., 1911.

A DIGEST OF THE LAWS AND REGULATIONS OF THE VARIOUS STATES RELATING TO THE REPORTING OF CASES OF SICKNESS. By John W. Trask. Paper. Public Health Bulletin 45. U. S. P. H. and M.-H. Service. 1911.

ANATOMIE TOPOGRAPHIQUE ET CHIRURGIE DU THYMUS. Par M. le Dr. Eugène Olivier, Aide d'Anatomie à la Faculté de Médecine. Paper. Pp. 152. Paris: G. Steinheil, 2 Rue Casimir-Delavigne, 1911.

BIBLIOGRAPHICAL CONTRIBUTIONS FROM THE LLOYD LIBRARY. Bibliography Relating to the Flora of Germany. Paper. Published by the Lloyd Library, 309 West Court Street, Cincinnati.

THE PERMANENT BETTERMENT OF THE CRIPPLED CHILD. By Douglas C. McMurtrie. Paper. New York City, 480 Park Ave. 1911.

EIGHTEENTH ANNUAL REPORT OF THE WOMEN'S DIRECTORY OF PHILADELPHIA, 204 South Seventh Street. 1911. Paper.